Symposia Melitensia

Selected proceedings of the Conference
'Connections',
University of Malta Junior College,
18-20 September 2017

Number 14
(2018)

UNIVERSITY OF MALTA
L-Università ta' Malta

Index

Connectivity, Mobility and Island Life: Parallel Narratives from Malta and Lesvos

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Abstract: Modernity is increasingly about movement, with people navigating through different spaces and places throughout their lives and careers. Probably all the more so when we deal with islanders, who combine home and away in strategic ways: for adventure, education, work, career development. Islanders are not insular.

This paper offers a contrast between the dominant narratives of mobility and immobility of the 21st century. At one end, there is the 'kinetic elite' which includes professionals who commute regularly between countries as part of their work and career development: university academics, corporate managers, software technicians, European Commission staff. Along with these is a select but growing number of HNWIs – high net worth individuals – those who exploit multiple residence and citizenship schemes (and various tax code loopholes) to park themselves, and their assets, temporarily in particular jurisdictions. Often with multiple passports, these persons face sophisticated marketeers and promoters keen to enlist them to their schemes. At the other end are the millions vying for a better life or seeking to escape famine, drought, civil war, and political persecution, mainly in sub-Saharan Africa and the Middle East. Often with no passports, these face multiple barriers to manage their movements. In between these two solitudes, are the lives and stories of the islanders themselves who may need to reconcile themselves with, but often disregard, these contradictory policies.

Islands (and islanders and their governments) face these contradictory pressures and often label and stereotype the subjects of these divergent mobility patterns in dramatically different ways. These labels are often corroborated by equally stereotypical notions of race, ethnicity, and religion. The paper fleshes out these ideas by reflecting largely on three parallel mobility narratives on two Mediterranean islands: Malta and Lesvos (Greece).

Keywords: Lesvos, Malta, migration, mobility, narratives

The Scenario

Today, geography still matters; but it matters in a different way. The notions of distance, space, place, and time need to be radically reviewed and reconfigured in the context of the twenty-first century. Globalization has eased the navigation of products, services, money, and people across the planet.[1] Developments in information and communication technologies (ICTs) have shrunk (or even 'killed') distance and offer a new sense of immediacy and intimacy.[2] Neo-liberalism has supported these technical and economic initiatives with its own political thrust and agenda.[3]

The old 'space-time' dichotomies may appear thoroughly erased, and certainly problematized differently, for those who can afford regular physical visit-journeys that criss-cross boundaries, along with the modern-day electronic virtual communication paraphernahlia of mobile phone, e-mail, whatsapp, web-cams, blogs, digital photography, and video streaming.[4]

The real costs associated with physical mobility have fallen sharply – consider mobile telephony, text messaging, and low-cost airline tickets – making people's engagement and commitment to tasks underway in a number of diverse physical locations increasingly possible and attractive. The willingness and ability to travel is not just commonplace but increasingly expected: having and using a passport is a normal rather than an exceptional feature of various occupational contracts. The functional-spatial-temporal flexibility of knowledge-capital (as with any other factor of production) is required, to the extent that mobility (including multiple language) skills are sought after and recognized. Barriers of ethnicity, nationhood, and race have become more fluid in drives for specialist recruitment, just as much as barriers of occupational demarcation, trade, employer loyalty, or standard

1   W.E. Murray and J. Overton, *Geographies of Globalisation* (London, 2014).
2   *K. Ohmae, The End of the Nation-State: The Rise of Regional Economies* (New York, 1995); F. Cairncross, *The Death of Distance: How the Communications Revolution will Change our Lives* (Cambridge MA, 1997); E. Tranos and P. Nijkamp, 'The death of distance revisited: Cyber-place, physical and relational proximities', *Journal of Regional Science*, 53, (2013), 855–73.
3   D. Harvey, *A Brief History of Neoliberalism* (Oxford, 2007).
4   R. Cohen, 'Diasporas and the nation-state: from victims to challengers', *International Affairs*, 72 (1996), 507–20.

working time have been steadily melting away in the face of flexible specialization, workforce professionalization, self-employment, tele-working, Skyping, and the decline of traditional and protectonist trade unions. The long and short of all this is that it can no longer be assumed that people are physically available in a certain [read specific] place for a certain [read long and regular] time.

And yet, some would say that this techno-liberal push, as much as the nature and impact of globalization, which reached a climax in the Single European Act (signed in 1985) and the collapse of the Berlin Wall in 1989, has been greatly exaggerated.[5] Moreover, this push may have been simply *too* successful and lethal in its far-reaching consequences.[6] We are now witnessing a backlash of and by States, governments, and populist political agendas, trying to reclaim some lost ground and recover or ringfence control over 'market forces' and domestic policy-making that have progressively eroded the influence of states on people in place. Consider the collapse of the Doha round of World Trade Organisation talks already back in 2009, the Trump phenomenon in the US, the 2016 Brexit referendum in the UK, the temporary suspension of visa-free travel within the Schengen zone, and the attitudes of the Orban government in Hungary and the Law and Justice Party government in Poland with respect to the EU.[7] Race, nation, security, and identity are once again toxic topics in domestic politics. Physical borders have been on the rise as peoples have been seeking to better protect their own turf.

5   D. Harvey, 'Neo-Liberalism as creative destruction', *Geografiska Annaler: Series B, Human Geography*, 88 (2006), 145–58.

6   W. Streeck and P.C. Schmttter, 'From national corporatism to transnational pluralism: or-ganised interests in the Single European Market', *Politics & Society*, 19 (1991), 133–64.

7   A. Ong, *Neoliberalism as Exception: Mutations in Citizenship and Sovereignty* (Durham NC, 2006); S.C. Schwab, 'After Doha: why the negotiations are doomed and what we should do about it', *Foreign Affairs*, May/June, 2011, 104–17; E. Farrelly, 'Brexit and Trump, neolib-eralism has reached its natural conclusion. What now', *The Age*, 13 August 2016; available from http://www.theage.com.au/comment/in-brexit-and-trump-neoliberalism-has-reached-its-natural-conclusion-what-now-20160811-gqq012; R. Brubaker, 'Between nationalism and Civilisationism: The European populist moment in comparative perspective', *Ethnic and Racial Studies*, 40 (2017), 1191–226; *European Commission, Temporary reintroduc-tion of border control* (Brussels, 2017); available from https://ec.europa.eu/home-affairs/what-we-do/policies/borders-and-visas/schengen/reintroduction-border-control_en

Have mobility skills, will travel

In this turbulent context, those most likely to conform to the description of a mobile class would be 'professional knowledge workers': freelance consultants, senior financial service executives, academics, and senior corporate managers. These are the cadres on which airline companies have reaped considerable profits from the sale of first-class and business class tickets and access to airport lounges. However, there are two additional, and very dissimilar, clusters of persons who are also identifiable by their willingness to travel in the modern age. One group consists in HNWI, or 'high net worth individuals':[8] these are the super rich, usually accompanied by family members, with considerable financial assets and who are most likely to shop around for the best places to live, park their money, practise their favourite sport, educate their children, and entertain their friends.[9] The second group consists of refugees, economic migrants, and asylum-seekers: individuals, usually accompanied by family members, fleeing civil wars, famine, drougths, unemployment and religious and/or political persecution, in search of a better, safer life.[10]

While similarly disposed towards mobility, these two groupings are very different from each other. Rather than focusing on just their qualities and behaviour, I wish to turn our sights in this paper to the ways in which States respond to the challenges, opportunities, and threats posed by the movements, actual and intended, of these two groups. The discrepancy and contrast in state practice speaks volumes about the absence of morality in mobility and about the readiness of and by governments to discriminate amongst the mobile, largely on the basis of the depth of their pockets.

Mobility poses an obvious challenge to the modern State whose authority and *raison d'etre* is premised on the notion of territoriality.[11] A government seeks to exercise legitimate control over a citizenry – and will lay claim to a portion of its revenue via taxation – not so much via

8   I. Hay (ed.). *Geographies of the Super-rich* (Cheltenham, 2013).
9   M. Featherstone, 'Super-rich lifestyles', in T. Birtchnell and J. Caletrío (eds.), *Elite Mobilities* (London, 2014), 99–135.
10   M.J. Gibney, *The Ethics and Politics of Asylum: Liberal Democracy and the Response to Refugees* (Cambridge, 2004).
11   S. Elden, *The Birth of Territory* (Chicago, 2013).

notions of birth and blood affinity, but by virtue of residence. Only two countries in the world charge tax on the *global* world income of their non-resident citizens: Eritrea and the United States.[12] Most ongoing public policy continues to assumes a fixity of address: education policy, economic policy, labour policy, taxation policy, proprietary rights … all assume that individuals have, or should have, *one* home, somewhere. And the enforcement of domicile – including via the closure of borders to the unqualifed – is seen as part of the mandate of the state; a mandate that has become a priority with the rise of securitization in the West.

Enter islands

Let me now bring 'small islands' into the discussion. Their self-evident delineated boundaries help to increase the disposition towards a proto-ethnic sense of self amongst the locals;[13] they also transform immigration control to the function of policing the coast (apart from any access points offered by airports and sea ports), with no land border to watch over.[14] However, one often forgets that most islands are anything but insular:[15] they have a natural and inevitable orientation towards openness and thrive on trade and commerce; their island inhabitants look to their respective metropole for inspiration, adventure, entertainment, shopping, education, and/or employment. Island literature is dominated by the migration theme.[16] Indeed, exile (or ex-isle),[17] is often the only effective antidote to a pervasive and stifling totality, monopoly, and

12   T. Durden, 'An appalling practice used in only two nations, of which the US is one', *Zero Hedge*, 17 September 2014; available from http://www.zerohedge.com/news/2014-09-17/appalling-practice-used-only-two-nations-which-us-one?page=1.

13   G. Baldacchino, 'Islands: objects of representation', *Geografiska Annaler: Series B, Human Geography*, 87 (2005), 247–51.

14   Id., 'Islands and the offshoring possibilities and strategies of contemporary states: insights on/for the migration phenomenon on Europe's southern flank', *Island Studies Journal*, 9 (2014), 57–68.

15   C. Gosden and C. Pavlides, 'Are islands insular? Landscape versus seascape in the case of the Arawe Islands, Papua New Guinea', *Archaeology in Oceania*, 1 (1994), 162–71.

16   For example, E.A. Markham (ed.), *Hinterland: Caribbean Poetry from the West Indies and Britain* (Newcastle-upon-Tyne, 1989); R. King and J. Connell, *Small Worlds, Global Lives: Small Islands and Migration* (London, 1999).

17   C. Bongie, *Islands and Exiles: The Creole Identities of Post/colonial Literature* (Staford CA, 1998).

intimacy of the local socio-cultural-political environment.[18] Islanders are well-known to have a higher propensity to migrate to developed countries:[19] international migration has, in fact, long been recognized as heaviest from the world's smallest territories, to the extent that there are, say, more Cook Island citizens living in New Zealand than in the Cook Islands themselves.[20] For various small-island households, migration is a powerful strategic resource, since children sent to live abroad can be expected to infuse remittances, in cash or in kind, to the home economy: in some instances (such as Samoa and Tonga), these are significant contributions to the gross national product.[21]

The life-histories of small islanders, where meticulously documented, reveal a complex juggling of the pros and cons of staying at home and going overseas. They constitute living examples of what are called 'transnationals', a specific pattern of de-territorialized and cross-boundary migration that challenges the concept of the temporality and spatiality of 'homeness'.[22] A series of human resource retention, development, or reclamation strategies have been and are being developed by enterprising individuals or families in order to nurture and exploit the advantages of a *glocal* citizenship.[23] Government policy has much to catch up with, and, in many cases, turns a blind eye and refuses to consider that individuals are behaving in these trans-territorial ways that lead to selective spatial and residential shopping. Moreover, they are also doing so in ways that do not necessarily translate as single and definitive acts of emigration from A and immigration into B. Rather, 'circular migration' is

18 G. Baldacchino, *Global Tourism and Informal Labour Relations: The Small Scale Syndrome at Work* (London, 1997).

19 J. Connell and R. King, 'Island migration in a changing world', in R. King & J. Connell (eds.) *Small Worlds*, 1–26.

20 Baldacchino, *Global Tourism*, 89; D. Lowenthal, 'Social issues', in C.G. Clarke & T. Payne (eds.), *Politics, Security and Development in Small States* (London, 1987), 41–3.

21 A. Ahlburg and R.P.C. Brown, 'Migrants' intentions to return home and capital transfers: a study of Tongans and Western Samoans in Australia', *Journal of Development Studies*, 35 (1998), 125–51.

22 D.T. Duval, 'Conceptualising return visits: a transnational perspective' in T. Coles and D. Timothy (eds.), *Tourism, Diasporas and Space: Travels to Promised Lands* (London, 2004), 50–61; P. Hatziprokopiou, 'Balkan immigrants in the Greek city of Thessaloniki', *European Urban and Regional Studies*, 11 (2004), 321–38; S. Vertovec, 'Transnationalism and Identity', *Journal of Ethnic and Migration Studies*, 27 (2001), 573–82.

23 T.J. Courchene, 'Glocalisation: the regional/international interface', *Canadian Journal of Regional Science*, 18 (1995), 1–20.

increasingly common, facilitated by the increasing disposition to, and ease of, doing so.[24]

Place-based public policy will find it hard to manage, let alone contain, these practices. The allegiance of citizens or organizations to single countries has been dented with the emergence of trans-national corporations, multi-passporting, 'circular migration' strategies, and a glocal elite with dual or multiple nationalities. Firms have been exploiting different tax regimes to park funds and profits where they are safe yet are likely to be taxed least. High net worth individuals now do the same, arguing that, while tax avoidance is a crime, tax minimization is not.[25] Investment migration, understood as the acquisition of legal residence and eventually citizenship in exchange for a donation or investment into the economy of the jurisdiction concerned, is now a strategy practised by individuals – directly and/or through their companies – as much as by those governments keen on luring them for their financial assets, talent, and/or simply brand power[26]. Some 50 countries today allow dual citizenship.[27] These include various EU member states: Malta introduced a citizenship by investment scheme in 2014, following local domestic controversy;[28] while Greece introduced a residency by investment scheme in 2013, but is changing this to a citizenship by investment scheme 'compatible with those of Cyprus and Malta'.[29]

Here, I turn to two Mediterranean island cases where I can admit some familiarity and where I wish to critique mobility policy in practice

24   G.J. Abel and N. Sander, 'Quantifying global international migration flows', *Science*, 343 (2014), 1520–2.

25   P. Alldridge, 'Tax avoidance, tax evasion, money laundering and the problem of "offshore"', in P. Lagunes (ed.) *Greed, Corruption and the Modern State* (Cheltenham, 2015), 317–35.

26   O. Parker, 'Commercialising citizenship in Crisis EU: The case of immigrant investor programmes', *Journal of Common Market Studies*, 55 (2017), 332–48; K. Surak, 'Global Citizenship 2.0: The Growth of Citizenship by Investment Programmes', Occasional Paper. Investment Migration Council, 2016, Available at http://investmentmigration.org/download/global-citizenship-2-0-growth-citizenship-investment-programs/.

27   A. Henderson, 'Which countries allow dual citizenship and which don't?', *Nomad Capitalist*, 2014; available from http://nomadcapitalist.com/2014/04/25/countries-allow-dual-citizenship/.

28   G. Baldacchino, 'Malta Transformed by Multi-Level Governance: More Than Just an Outcome of Europeanisation', *Occasional Papers Series*, 3 (2014), Institute of European Studies, University of Malta.

29   '2nd Passports.com, Greece: Citizenship by Investment', 2017; available from 'https://2ndpassports.com/greece-citizenship-by-investment/'.

and to question its morality. The first is Malta (resident population: 420,000), a sovereign archipelagic state that straddles the passage from Libya to Italy being followed by many undocumented migrants.[30] It has a contemporary labour market with a large and still growing number of immigrant workers (around 30,000), while some 3,000 Maltese work with the European Commission and in other EU member states, benefiting from the bloc's freedom of movement. Lesvos (population: 86,000), meanwhile, is a Greek island located just six kilometres away from the Turkish mainland and the transit point of up to a million immigrants that have entered the EU in recent years.[31] It is also the new home of some expatriates who have applied for Greek residence (and eventual citizenship after seven years) and is increasingly tolerant of Turkish tourists and investors to boost the local island economy, which is still recovering from the effects of a major financial crisis.

A triple mobility narrative

Thus, there unfolds on these islands a triple mobility narrative. The first concerns local citizens, who are keen travellers. With only Gozo as the local hinterland, the Maltese gravitate internationally, where practically every trip involves a flight out of the country; the citizens of Lesvos travel to mainland Greece, often by ferry, but also to Turkey, a short hop away, and elsewhere, though not so much to other Greek islands. Here, mobility is extensive and unrestricted, particularly within the Schengen zone, of which both Malta and Greece are members. Being members of the 20-country euro-zone avoids the inconvenience of currency conversion; however, the citizens of Greece have had to tolerate capital controls for some time, restricting the amount of foreign currency they could purchase.

The second narrative relates to undocumented migrants. Pending those who have drowned in the perilous sea journey, these have been arriving by boat and dinghy from Turkey to Lesvos; or saved at sea by the Maltese coast guard (but now increasingly landing as 'tourists' at

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30   D. Lutterbeck, 'Small frontier island: Malta and the challenge of irregular immigra-tion', *Mediterranean Quarterly*, 20 (2009), 119–44.
31   A. Afouxenidis, M. Petrou, G. Kandylis, A. Tramountanis, and D. Giannaki, 'Dealing with a humanitarian crisis: Refugees on the eastern EU border of the island of Lesvos', *Journal of Applied Security Research*, 12 (2007), 7–39.

the Malta International Airport and then overstaying their tourist visa). These are subjected to mobility restrictions: locked in detention centres – Safi Barracks and Lyster Barracks in Malta (until 2015) and Moria in Lesvos, their movement reduced or curtailed, while refugee status claims are processed. Such spaces are transitional spaces where inmates are often treated like criminals and human rights are progressively eroded in the world of modern biopolitics.[32] They are eventually moved to 'open centres' or repatriated back home, often against their will. Many will continue their journey: the island was always meant as a transit point. Often with the connivance of the locals, they head out of Malta and to Continental Europe via Sicily and Italy, or out of Lesvos via ferry to Athens or Thessaloniki and then onwards to the continental heartlands of Germany, France, Sweden. Throughout, these immigrants are treated as illegal personas – *klandestini*, in Maltese, μετανάστες χωρίς έγγραφα in Greek – and held under harsh and demeaning conditions. They are deemed burdens on the State, even though many would work, and work hard, if and when given the opportunity. Processing asylum claims may take many months; at one point it took 18 months in Malta: a measure, many locals agreed, that would help dissuade still more migrants from considering coming over there. To a segment of the local population, the ethnic, racial, and religious backgrounds of most immigrants – many are dark-skinned Muslims from sub-Saharan Africa – raises imagined notions of their own Christian, European, and 'white-skinned' credentials and identities.[33] (By the way, the sun-baked Maltese and Greeks are hardly white-skinned: sorry.) The long history of the Mediterranean as a polyglot region and a tolerant churn of peoples united by the desire to trade has, alas, been conveniently forgotten.[34]

The third narrative relates to those applying for what will eventually be an attractive dual passport which grants visa free access to all EU countries (and in the case of Malta, as a Commonwealth member state, access to even more countries, and including the UK, even if and when

32   G. Agamben, *Homo Sacer: Sovereign Power and Bare Life*, (Stanford CA, 1998); Lesvos Legal Centre, 'Moria Community Leaders Demand Respect for Refugee Rights in Lesvos' 10 January 2017; available from https://legalcentrelesbos.wordpress.com/

33   B. Anderson, *Imagined Communities: Reflections on the Origin and Spread of Nationalism* (London, 2006); G. Baldacchino, 'Pangs of nascent nationalism from the nationless state? Euro coins and undocumented migrants in Malta since 2004', *Nations and Nationalism*, 15 (2009), 148–65.

34   D. Abulafia, *The Great Sea: A Human History of the Mediterranean* (Oxford, 2011).

it leaves the EU). The targets here are high net worth individuals and their families, often owning more than €5 million as assets. Here, smartly dressed executives engaged with reputable consultancy firms (such as Henley and Partners, Knight Frank and Monarch & Co) as well as staff at the respective ministries and government agencies, will facilitate access and help in the processing of applications, most taking just a few months. The mechanisms of the State are deployed to screen but then to lubricate the transition towards the acquisition of property, corporate investment, and other requirements. Tellingly, the residence condition attached to the scheme in Malta has been legally defined to mean buying and owning (and not necessarily taking up) residence in Malta. After all, while HNWIs are often likely to purchase property and make the necessary financial investments to secure their second passports, they are just as unlikely to actually take up residence in their newly adopted country (other than for short periods). The second passport is typically an insurance policy, potentially useful in the longer term.

Concluding reflections

Today's mobility politics are selective, driven by the State's pursuit of talent and investment; as much as by its ambiguity in the face of asylum seekers. A machinery of control and processing comes into play and accompanies both high-end and low-end considerations: there are applications to filled in, interviews to be scheduled, processing times to be respected. But the approaches are very different: the treatment of one set of clientele verges on that reserved for criminals; the treatment of the other set is accompanied by the accoutrements of etiquette and civility.

Disasters demobilize and remobilize individuals.[35] Wealth creates manifold opportunities for the mobility of persons and personal assets, and, while States practise closure and selection at their borders, they can also not just accept but even fast-track applicants who meet specific endowment criteria, for both residency and citizenship. Mobility

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35   M. Sheller, 'The islanding effect: post-disaster mobility systems and humanitarian logistics in Haiti', *Cultural Geographies*, 20 (2013), 185–204.

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justice is troubled by these double standards, where they exist. They become all the more glaring when these dissimilar groups of residence-seekers perchance meet and interact in the same space. The relatively small populations and land areas of Malta and Lesvos should facilitate such encounters, including those with the locals. However, while the identity of refugees and asylum seekers is visibly marked by their dress, language, skin colour, and/or physical confinement in detention, the identity of the HNWIs is more heterogenous and their location and movements on the islands tends to be more discrete. Indeed, so discrete that these may be nowhere to be seen.

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Disconnection at the Limit: Posthumanism, Deconstruction, and Non-Philosophy

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Abstract: Speculative posthumanism (SP) conceives posthumans as agents made inhuman by a technological disconnection or 'withdrawal' from human social systems (The disconnection thesis – DT). DT understands becoming nonhuman in terms of agential independence. An artefact like a robot is a 'wide human' so long as it depends on its human-related functions to exist.

But what is an agent? SP forecloses a purely conceptual response to this question because it rejects transcendental accounts of subjectivity founded in human experience or social practice (Unbounded Posthumanism – UP). UP renders this question illegitimate because it denies there is any theory of agency that could apply to all agents. Not only does DT not tell us what posthumans are like, it has no criteria for determining when disconnection occurs.

It follows that understanding the posthuman (if possible) must proceed without criteria. The content of unbounded posthumanism is produced by disconnection rather than by the schematic theoretical content of DT. I will argue that this implies an intimate relationship between the understanding and practice in posthumanism that allows us to draw fertile analogies between UP and two other 'philosophies of the limit' Derrida's Deconstruction and Laruelle's Non-Philosophy.

Disconnection

Speculative posthumanism (SP) is concerned with the prospect of a posthuman reality emerging from the technological alteration of the human one. This technological focus comports with a general concern with human-made futures that don't include us. Outside fiction, our moral concern for a nonhuman future is prompted by the theorized potential of technology to drastically alter us or our environments.

Thus qualified, SP claims 'there could be powerful nonhuman agents that arise through some human-instigated technological process'.[1] More precisely, posthumans are *wide* human descendants of humans who have become *inhuman* through some technical process.

The concept of wide descent avoids bio-chauvinism. We don't know where posthumans could come from or how. 'Wide' descendants can come from any part of the 'Wide Human' of humans and their technological objects, a system on which we depend much as it depends on us. Your toothbrush is wide human, as are you and your pet pig.

Its emphasis on technogenesis means that SP is often conflated with Transhumanism That's an egregious mistake. Transhumanists, like classical and modern humanists, hope to cultivate human capacities, such as reason and creativity, with advanced technologies such as artificial intelligence or germline genetic engineering. Transhumanism is an *ethical claim to* the effect that technological enhancement of capacities like intelligence or empathy is a good idea.

SP, by contrast, is *metaphysical*. It says only that there could be posthumans; not that they would be better than us, or even comparable from a moral perspective.[2]

This does not mean that SP is morally inconsequential but the metaphysics and epistemology of the posthuman drive the ethics, not vice-versa.

So how can we put bones on the thought of a *nonhuman wide human descendant*? A posthuman?

A plausible condition for any posthuman-making event is that the resulting nonhuman entities could acquire purposes not set by humans – and that this autonomy is due to some technological alteration in their powers.

I call this claim the 'Disconnection Thesis' (DT). The core theoretical construct of SP.

DT says posthumans are feral technological entities. Less roughly, an X is posthuman if and only if X or its wide human ancestors originated in 'Wide Human' but now acts outside of it.[3]

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1   David Roden, *Posthuman Life: Philosophy at the Edge of the Human* (London, 2014), 112.
2   Ibid., 97–8, 108–9; Id., 'The Disconnection Thesis', in *The Singularity Hypothesis: A Scientific and Philosophical Assessment*, eds. A. Eden, J. Søraker, J. Moor, & E. Steinhart (London, 2012), 281–98.
3   Roden, *Posthuman Life*, 109–13.

DT understands human-posthuman differences without being committed to a 'human essence' that posthumans will lack. This is a feature rather than a bug because if there is an essential human nature nobody knows what it is. So best get by without it. [4]

Becoming posthuman, then, is a matter of acquiring a technologically enabled capacity for independent agency.

DT is multiply satisfiable by beings with different technological origins and very different natures or powers (e.g. artificial intelligences, mind-uploads, cyborgs, synthetic life forms, etc.). This is as it should be since there are no posthumans and no substantive information on them, yet.

Nonetheless, DT has philosophical commitments which can be approached with varying stringency. The key variable is agency.

Disconnection is stipulated to *only involve agents*. This is to avoid the trivial consequence that any formerly useful part of WH becomes posthuman when it ceases to have a human function. Hulks, ruins and discarded mobile phones are not posthumans because none exhibit agency following their loss of human-centred function.[5]

However, the concept of an agent can be relatively constrained or liberal. I refer to a version of SP with a constrained agency concept as 'bounded'; with a relatively liberal one as 'unbounded'.

Bounded Posthumanism

Posthumanism with constrained agency usually conforms to some moral conception of human life and is often indistinguishable from transhumanism.

For example, in *Posthuman Personhood* Daryl Wennemann adopts a Kantian, rationalist conception of agency. He holds that true agency is personhood. Being a person requires one *be answerable to reasons or in the space of reasons*. A person can reflect on 'himself and his world from the perspective of a being sharing in a certain community'. A person is reflective subject capable of belonging to a moral community, bound by norms of action, etc.[6]

4   Ibid,, 113–15.
5   Ibid,, 127–30.
6   Daryl Wennemann, *Posthuman Personhood* (New York, 2013), 47.

This stringent concept implies that, whatever the future throws up, posthuman agents will be social and, arguably linguistic beings like us, even if they are robots or computers, have strange bodies, or even stranger habits.

A (First) Unbounded Posthumanism (UP1)

However, we can also can frame much more liberal agency requirements which need not involve the capacity for self-evaluation though social norms or rational autonomy.

The agency concept I introduce in *Posthuman Life* only requires some degree of what I refer to there as 'functional autonomy'.[7]

This minimal agent is a self-maintaining system. Its functional autonomy measures its capacity to exploit the world to survive while becoming useful in its turn for other things. A drastic diminution of functional autonomy is a reduction in power that, for us, is experienced as harm. Arthritis of the back or limbs painfully reduces freedom of movement. Gaining new skills or becoming fitter increases functional autonomy or one's capacity to affect and be affected.[8]

Hyperplasticity

However, we could envisage posthuman entities with equivalent or greater functional autonomy than us that do not satisfy the conditions for personhood or rational autonomy because they cannot answer to communal principles or norms.

To bring the implications of this home, I'll focus on what happens if we take functional autonomy to a monstrous limit: the case of the hyperplastic.

I call an agent 'hyperplastic' if it can make arbitrarily fine changes to its body or structure without compromising its capacity for hyperplasticity.[9]

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7 Roden, *Posthuman Life*, 125–41.
8 Manuel DeLanda, *A New Philosophy of Society: Assemblage Theory and Social Complexity* (London, 2006), 50.
9 Hyperplasticity is discussed in greater detail in David Roden, 'Reduction, Elimination and

Now, it is possible to argue that, if certain assumptions about the relationship between physical and mental properties hold, a hyperplastic agent would be uninterpretable for us.

The assumption in question is *modest*. An *antireductionism* for which our mental life depends on our body's physical state without being reducible to it or inferable from it.

If mental life cannot be inferred from physical facts about a creature or vice-versa, a hyperplastic would have no use for concepts of belief, intention, or desire, for it would never be able to infer what it would believe or want from the physical or functional consequences a self-intervention. Nor would it be able to preclude that some mental state would be deleted by another self-modification since, assuming anti-reductionism, *believing* that Lima is capital of Peru or *desiring* to sail round the world, *wishing* it were Christmas, or similar such 'intentional' states are not reducible to the physical states on which they nonetheless depend. Thus, the common-sense or 'folk' psychology underlying our communal attachments would be effectively useless to hyperplastics.

The limit of functional autonomy, or of plasticity, then, is not an immortal superhuman but something infinitely capable yet refractory to our ideas about mind and meaning. An entity inciting comparisons with the disgustingly shapeless Shoggoths that Lovecraft depicts in his novella, *At the Mountains of Madness*, or maybe Cthulhu himself.[10]

As stated, hyperplasticity is an ideal limit, what is interesting is whether we can approach it. Significant hyperplasticity may not be possible in worlds like ours.

However, its introduction here is intended as salutary not demonstrative. To show that our conceptions of agency and subjectivity may be too parochial to travel far beyond our ecological niche. As a route to posthumanity, hyperplasticity would constitute an instance of what the deranged and deranging protagonists of R. Scott Bakker's ultra-dark thriller *Neuropath* call the 'semantic apocalypse' – the point at which the scientific predilection to eliminate meaning in the nonhuman world completes itself by extirpating the kingdom of persons or moral subjects.[11]

Radical Uninterpretability', 2015 www.academia.edu/15054582/Reduction_Elimination_and_Radical_Uninterpretability. See also Roden, *Posthuman Life*, 100–3.

10   H.P. Lovecraft, 'At the mountains of madness', in *The Thing on the Doorstep and Other Weird Stories* (London, 2001).

11   R. Scott Bakker, *Neuropath* (New York, 2010).

If this, or an equivalent derangement of subjectivity and agency, is possible through disconnection, then bounded posthumanism is false and some regions of posthuman possibility space may be quite as weird as the 'abysms of shrieking and immemorial lunacy' hinted at in Lovecraft

Before considering the implications of unbinding for our understanding of human-posthuman disconnection, I want to consider some complementary justifications for unbinding posthumanism with a lax as opposed to a stringent agency concept.

Dark phenomenology

The first justification is the thesis concerning 'dark phenomena'.[12]

Dark phenomena are contents or structures of experience such that having them does not confer much or any understanding of them. For example, we seem to experience time as an open flow into the future. Many philosophers have thought that this flow is a condition (technically a 'transcendental condition') of experiencing objects and worlds. Phenomenologists like Edmund Husserl and Maurice Merleau-Ponty have argued that we can grasp this structure in experience and thus understand the structure of objectivity in any world.

But, if temporality is dark, experiencing it is philosophically overrated. For example, although this flow seems continuous we cannot know it is continuous without analysing it at ever finer grains. This seems to be as much beyond our powers of attention and memory as remembering very fine differences in colour.

So, if lived time has the features it needs to give access to a world, its structure must elude us much as the fine structure of matter does. If so, how can we know it gives us worlds. How can we even know what a world is?

Doing phenomenology *can't tell us what phenomenology is or can do*. Our capacity for self-reflection exposes us to the simulation of a subject whose utterly non-subjective nature is entirely inaccessible to it.[13]

12   David Roden, 'Nature's Dark Domain: An Argument for a Naturalised Phenomenology', *Royal Institute of Philosophy Supplements*, 72 (2013), 169–88; id., *Posthuman Life*, 82–104.
13   See Thomas Metzinger, *Being No One: The Self-Model Theory of Subjectivity* (Cambridge, MA, 2004).

Dark pragmatism

The second plank of my argument for the opacity of agency is aimed at the widely shared post-Hegelian consensus that *serious agency* is constituted by participation in linguistic or cultural practices. We have already seen an example of this in Wennemann's appeal to the reflexivity afforded by the social bond but it is a staple of analytical and continental thought, from Wittgenstein to Sellars, from Habermas to Brandom. Clearly, if this is true, then hyperplastic agency is a contradiction in terms (as, incidentally, is almost any kind of agency on the part of nonhuman animals). However, if it can be shown to be incomplete in its own terms then we no longer need assume that agency is exhausted by our manifest image of it.

Explaining subjectivity and agency in terms of shared practices requires a durable account of how certain behaviours get to be *evaluable* as practices. I've argued that the most plausible account is to claim that behaviours are evaluable wherever a competent interpreter *would judge them to be so*. [14]

Unfortunately, this doubles subjectivity in such a way as to unbind it again. We have a first order subject accounted for by its participation in social practice. We have a second order, interpreter-subject presupposed but not explained by that first account. '[In] principle interpretability is ill-defined unless we have some conception of what is doing the interpreting' or what their competence would involve.[15]

The common thread here is that bounding constraints invoke untamed 'wild' principles which cannot be regimented or reined in. This form of argument is inspired by Jacques Derrida's method of deconstruction. His close readings of philosophers like Kant, Husserl, and J.L. Austin were designed to show that their claims about consciousness, form, or meaning required an excessive and conceptually antithetic element outside their systems. For example, meaning requires repeatable symbols. Derrida argues that such repetition only works if symbols can also be abused or misused. So, no symbol can be defined by fixed rules of use. Which is the same as saying there are no meanings, no semantic essences.[16]

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14   See David Roden, 'On Reason and Spectral Machines: Robert Brandom and Bounded Post-humanism', in *Philosophy After Nature*, Rosie Braidotti and Rick Dolphijn (eds.) (London, 2017), 99–119.
15   Id., *Posthuman Life*, 128; Id., 'Spectral Machines', 111.
16   Jacques Derrida, *Limited Inc.*, S. Weber (trans.) (Evanston, IL, 1988).

SP, deconstruction and The Philosophy of the Limit

Deconstruction is a form of what Drucilla Cornell refers to as 'The Philosophy of the Limit' (POL) – as is the afore-mentioned process of constraint peeling I call 'unbinding'.

POL's strip away the artificial constraints that make the world in our image, layer by layer, concept by concept. What remains, as in deconstruction, is something other than a world, and perhaps something more or less than philosophy, but an encounter with a remainder or non-meaning that philosophy cannot recognize or conceptualize.[17]

Reconsider the minimal agency model of unbound posthumanism. We should call this **Unbound Posthumanism I (UP1)** since yet more unbinding is necessary if we are to take this to the limit.

In **UP1** all agents are assumed self-maintaining. But what is it to maintain oneself in the most general sense? Is it a tendency to preserve a certain organic boundary or core temperature? Why assume that posthumans have fixed tolerances, state blankets, or operating parameters?

The extremum case of the hyperplastic suggests otherwise. Hyperplastics would lack structural invariance beyond the bare fact of hyperplasticity itself. They would not be self-maintaining in any sense that connects with the biological forms we know about. Above all, entertaining the possibility of a hyperplastic means thinking about agents we could not see, interpret or recognize *as agents*.

Can we even *think* of an agent that we cannot recognise as an agent?

The problem ramifies to a dilemma, or a conversation between monsters Philosophy Scylla and Philosophy Charybdis:

Scylla – the criteria for attributing agency do not apply to all agents since hyperplastics are unrecognizable as agents. Thus, the concept *agency* extends beyond our capacity to recognize instances of it.

Charybdis – Scylla, this seems absurd! How does any concept have an extension it is not applicable to? Being an agent must be coterminous with being recognizable as an one. Thus, hyperplastics would not count as agents according to first principles.

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17   Drucilla Cornell, *The Philosophy of the Limit* (London, 1992), 1; Katerina Kolozova, *Cut of the Real: Subjectivity in Poststructuralist Philosophy* (New York, 2013), 99.

However, opting for the whirlpool Charybdis does not save us from ruin if, as argued independently, the concept of agency can only be elucidated by some wild principle of subjectivity. We are simply left with quietist claims like 'agents are the things we call agents relative to our background practices'. But appeal to some anthropological invariants, if such there are, is of no moment when, as with SP, we are considering the implications of the long-run eliminability of the human and, as with other posthumanists, contesting the limits and boundaries of the human. Yet, even SP in the form developed in *Posthuman Life* is not immune from this corrosion for unbinding arguments also threaten the ontological clarity of the disconnection thesis, not least by implying that the Wide Human system is just another reification of 'us', another tautological assertion of human privilege.

Non-Posthumanism

If unbinding is justified (and I've indicated that it can be), posthumanist philosophy is at an impasse; not only because the speculative concept of the posthuman is undetermined in advance (that we knew!) but because DT is even disconnected from principled ways of identifying disconnections when and where they occur. We thus move from the first form of unbound posthumanism (**UP1**) that is still informed by a determinate agency concept to the limit version in which the concept has become maximally indeterminate. (**UP2**)

Such indeterminacy also held of the standard formulation of speculative posthumanism. As we noted, DT doesn't provide any information about posthumans. Even with **UP1**, the only way we can acquire substantive knowledge of posthuman lives is through an event of synthesis or engineering: *making posthumans*, *becoming posthuman*.

This, I think, is *the* ethical impasse of the posthuman, of modernity even. If we unbind the posthuman we cannot deliberate on becoming posthuman without pre-empting our deliberation. A 'major' or 'state politics' of disconnection is consequently impossible since the voices that will contribute to the decision cannot be fixed independently of challenging the very composition of voices, those with the right of decide.[18]

18   Roden, *Posthuman Life*, 179–82.

Posthuman prospects can be identified or evaluated only by bringing them about since that is the ideal knowledge state for such a political decision. As Steven Shaviro asks:

How can we come to terms with forms of 'knowledge' whose very effect is to change who 'we' are? How do we judge these disciplines, when they undermine, or render irrelevant, the very norms and criteria that we use to ground our judgments?[19]

UP1 referred to an abstract event of technogenesis that could not be decided within any pre-existing ethics or politics precisely because only it could produce the conditions under which it could be retroactively assessed. What changes with **UP2**) is that there is no longer a distinction between wide or narrow human or between wide human and posthuman to regiment its content.

However, the problem of pre-emption has not gone away – our fatal entanglement with a planetary technology that is *inhuman* not because it is made of metal and plastic or lithium or silicon, but because its totality is not compliant to norms. It is not even an autonomous monster ruled by impersonal principles of efficiency.[20] Its hypertrophy is contrary to any end or transcendent order.

With this historical and semantic background in view, I want to enlist Derrida again by describing disconnection as 'a differential function without an ontological basis'.[21]

This formulation, which originally applied to Derridean textuality, is intended to reaffirm the affinity I broached earlier between unbound posthumanism and POL.

Deconstruction, like other POLs, suspends philosophy's assumption of sufficiency or competence, just as unbinding appears to *cede philosophy's relation to futurity*.

In what remains of this paper, I hope to use this affinity or analogy to begin to rethink the relationship between **UP2** and the reality with which it is involved and thus help to understand the

19   Steven Shaviro, *Without Criteria: Kant, Whitehead, Deleuze, and Aesthetics* Cambridge Mass, 2012), 15.
20   Roden, *Posthuman Life*, 150–65.
21   Jacques Derrida, 'My Chances/Mes Chances: A Rendez-vous with Some Epicurean Stereo-phonies', I.E. Harvey and Avital Ronell (trans.), in J.H. Smith and W. Kerrigan (eds.) *Taking Chances: Derrida, Psychoanalysis and Literature* (Baltimore MD, 1984), 16.

pull, ethical or otherwise, of the posthuman in a world of ramifying technics.

We can illustrate this with two of examples of Derridean terms that are drawn from the phenomenology of subjective time: *différance* and trace.

Différance (which utilizes the homonymy between the French verbs for differing and deferring) indicates a slippage between the now or present and an undetermined future. This present is always 'vitiated' by a *not yet* which undermines its stability.[22] For example, the literal meaning or role of a word in a language depends on its history of use but also on the possibility of being affected by future decisions about use. However, subsequent uses and decisions, as in the legal interpretation of a constitutional notion such as the right to privacy, are not programmed by a prior system of rules, even if they are historically constrained or conditioned by them.[23] Thus, in the linguistic case, *différance* is a condition of meaning which cannot be expressed in terms of meanings.

The 'trace' is another name for this susceptibility to modification or destruction through the passage to a new state. It is thus also a potentiality for memorization or return that is never betokened by determinate content. Again, it can also be interpreted libidinally as the inherent dynamism in desire, a deferral that can become indefinitely postponed through a relay of substitute objects or fetishes.

Both trace or *différance*, then, refer to a bending back (fold, *pli*) that can never be given and is thus inconceivable and unpresentable. They split and fold subjectivity irrevocably.

Since these structures are not experiencable, Derrida will re-use them to discuss other folds or splits in biological, linguistic, and social structures, not just minds. The account of the trace can thus be re-used beyond its origin to motivate a form of speculative materialism; a deconstruction of matter, if you will. For example, in his *Radical Atheism: Derrida and Time of Life*, Martin Hägglund reads the trace as the inherent destructibility of *any material mark or entity*. Nothing in time can be closeted in the now if it is not to be stuck in a changeless present. Everything is hollowed by 'a relentless displacement in everything that happens'.[24]

22   Jacques Derrida, *Margins of Philosophy*, Alan Bass (trans.), (Chicago, 1984), 13–17.
23   Cornell, 148–9.
24   Martin Hägglund, *Radical Atheism: Derrida and the Time of Life* (Stanford CA., 2008), 17.

Différance and trace thus have a topic neutrality which slips beyond the field of subjectivity much as disconnection slips beyond the philosophy of the posthuman future.

However, even this extra-philosophical status is insufficiently radical as an analogy for the caesura between **UP2** and philosophy. For unbinding gives us almost nothing other than the fact of technological pre-emption. Particularly, as the instance of the hyperplastic shows, it does not guarantee that this pre-emption can be understood in terms of the categories appropriate to subjectivity, such as meaning or the subjective time of conscious experience.

Différance and trace mark a simultaneous dependence upon unmeaning processes of alteration but do so in terms of the slippages, equivocations or blind spots these generate in meaning, intentionality, and experience. Or as François Laruelle, has suggested in his *Principle of Non-Philosophy*, deconstruction still abides within the assurance of philosophy's ability to adequately grasp structures of meaning and temporality. *Différance* is an otherness that 'protrudes from unity'. Its disunifying power thus reiterates the assumption of Philosophy's sufficiency to grasp and order the real.[25] Bakker poses this more clearly when he argues that deconstruction operates within a philosophical idiom that cannot theorize its own inability to understand its non-conceptual and non-phenomenological conditions – the conditions that I have glossed under the rubric of 'dark phenomenology':

One way to put Derrida's point is that there is always some occluded context, always some integral part of the background, driving phenomenology. From an Anglo-American, pragmatic viewpoint, his point is obvious, yet abstrusely and extravagantly made: Nothing is given, least of all meaning and experience. What Derrida is doing, however, is making this point within the phenomenological idiom, 'reproducing' it, as he says in the quote. The phenomenology itself reveals its discursive impossibility.[26]

However, as we have seen the legibility or the future and even the present are at issue in SP. Thus, the deconstructive argument for the necessity of trace or iterability on the grounds that they are conditions

25   François Laruelle, *Principles of Non-Philosophy* (New York, 2013), 54.
26   R. Scott Bakker 'Derrida as Neurophenomenologist' [web blog], 4 October 2016 https://rsbakker.wordpress.com/2016/10/04/derrida-as-neurophenomenologist/ (Accessed 2 September 2017).

of legibility or consciousness is moot here. SP is an attempt to address the long-run implications of technological modernity which, unlike transhumanism, rejects the transcendent moral status of the human subject or person as well as any subject-like or language-like transcendental organizing principles. Thus, unbound posthumanism *is immanentist* in so far as it brackets hierarchical conceptions of this 'long-run' which deconstruction still appears to require.[27]

This context is incomplete or open because the planetary engine is non-purposive, counter-final, not a project. It voids itself without ever having an *itself*. This means that philosophies of technology, like the work of Benard Stiegler, which conceptualize technology primarily as a supplement to experience, memory, and meaning, a 'primordial artefactuality of the spirit' as he puts it, may still be too anthropocentric to appreciate the stake of the posthuman condition.[28] Stiegler's work begins with the Derridean idea that technics both supplements and supplants (alters) the subjective life to which it is added. But this 'logic of supplementarity' is still pitched as a division of presence; a displacement or division of the origin, whereas even the relevance of this displacement is not assured for SP.[29]

This implies a potentially instructive analogy with a second POL: Laruelle's own Non-philosophy, of which a very inadequate sketch follows:

Non-philosophy goes further than deconstruction by suspending what Laruelle terms the 'philosophical decision', a term for any analysis of the real into form and content. For Laruelle, as we have seen, Derrida doesn't abandon this mixture-making but treats the trace as *yet another* transcendent organising principle for the empirical field of non-philosophical entities.[30]

In contrast, Non-philosophy does not attempt to think or conceptualise the real *at all*. The real is no longer a topic or object of

27   See Alex Dubilet, 'Non-Philosophical Immanence, or Immanence Without Secularisation', in D. Lewin, S.D. Podmore, and D. Williams (eds.), *Mystical Theology and Continental Philosophy: Interchange in the Wake of God* (New York, 2017), 232–3.

28   'Symptomatology of the Month of January 2015 in France', Paper delivered by Bernard Stiegler on 4 June 2015 at 'Authorizing the Human Person in a Cosmopolitan Age', Notre Dame Global Gateway, Rome.

29   Bernard Stiegler. *Technics and Time, 1: The Fault of Epimetheus*, Vol. 1 (Stanford, CA, 1998).

30   Laruelle, 53–4.

enquiry – as is the case with traditional realism – but the medium in which all philosophical decisions operate. This is because it is radically autonomous and non-relational; not given 'relative to Being, to the Other' or to even thought itself.[31] Thought can obviously think 'about' itself, as we are doing here but, for Laruelle, this is already operating 'in-One' (that is as radically autonomous or non-related) independently of interpretative decisions made by philosophies of thought such as idealism or realism.[32]

Thus understood, thought is not bonded to the real by intentionality or semantics. Rather all varieties of thought are actuated by it in a unilateral relation of pure passivity. In this, as John Ó. Maoilearca has argued, all forms of thought are equal since there is no transcendent meta-thought that can organize the universe only a series of 'clones' or mutational variants generated by it.[33]

Philosophy has no privileged status as a means of accessing the world in Non-philosophy. It is just another raw material for performances which could be artistic, political, erotic, poetic, or inhuman or posthuman, in a field devoid of anything beyond simulacra of transcendence – much as unbound posthumanism holds. Philosophy is a marionette dancing to strings suspended from an invisible point, like the 'clown puppet' apparition that reiterates for no reason, floating before the hapless narrator of Thomas Ligotti's horror story of that name.[34]

Using non-philosophy as a model, posthuman disconnection may be conceivable as an instance of the *non-transcendental marionette or clone*. Disconnection remains to be specified through production; immanently related as a precursor of 'disconnection', perhaps comparably to the twitter hashtag and the search options it generates. Posthumanism thus does not *think a world. It composes one*.

I think this (tentative) analogy between SP and NP may be fruitful insofar as it explains how the posthuman operates contingently through humans and nonhuman agents, a differing cloned through unbinding.

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31   Ibid., 23.
32   Ibid., 27.
33   J.Ó. Maoilearca, *All thoughts are equal: Laruelle and nonhuman philosophy* (Minneapolis, 2015). One might cavil here. It's far from clear that removing transcendental order suffices for equality. Maybe the democratic rhetoric of Non-Philosophy is inflated.
34   Thomas Ligotti, 'The Clown Puppet' in *Teatro Grotesco* (London, 2008), 53–64.

David Roden's published work has addressed the relationship between deconstruction and analytic philosophy, philosophical naturalism, the metaphysics of sound, and posthumanism. He contributed the essay 'The Disconnection Thesis' to the Springer Frontiers volume *The Singularity Hypothesis: A Scientific and Philosophical Assessment*. His *Posthuman Life: Philosophy at the Edge of the Human* (New York, 2014) considers the metaphysical, epistemological and ethical implications of the existence of posthumans: powerful nonhuman agents produced by human-instigated technological processes. Other representative publications include: 'Radical Quotation and Real Repetition' in *Ratio: An International Journal of Analytic Philosophy* (2004); 'Nature's Dark Domain: an argument for a naturalized phenomenology' in *The Royal Institute of Philosophy Supplement, Phenomenology and Naturalism* (2013); 'Sonic Arts and the Nature of Sonic Events', *Review of Philosophy and Psychology* (2010).

Critical Attitude and Conceptual Development in Physics: What Connections?[1]

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Abstract: In a changing world, several competences are universally advocated as educational objectives. One of the expected benefits of this choice is transferability across domains, as in the case of critical thinking. But developing various competences in this way may entail some limitations on other planes – for instance, in relation to disciplinary conceptual knowledge. The question arises of the possible links between development of a critical attitude and conceptual progress in a given domain. To document this question, I present a series of investigations involving future physics teachers at the end of their formation. Reporting their evolution during in-depth interviews on various topics in physics, I focus on the extent to which they critiqued incomplete or incoherent explanations. The findings are discussed in terms of 'intellectual dynamics' – that is, differences in the co-evolution of their conceptual understanding and critical attitude. In this context, the most frequently observed intellectual dynamics was 'delayed critique': waiting to reach a certain threshold of conceptual comprehension beyond mere logical necessity before expressing a critique of a given text. I will discuss the process by which the transition from critical passivity to the liberation of critical attitude is triggered in this population, discussing how we might help future teachers (and students more generally) to reduce the duration and effects of their critical passivity when they struggle to master the domain in question. I will argue that much more can be learned from students' responses to an educational setting if analysis of their comments is not confined exclusively to conceptual aspects but attends more to the possible *interconnections* between conceptual and metacognitive-critical-affective awareness.

Keywords: critical attitude, conceptual development, intellectual dynamics, teacher formation

1   Based mainly on investigations conducted with Nicolas Décamp.

In a changing world, several competences are universally advocated as educational objectives. One of the expected benefits of this choice is transferability across domains, as in the case of critical thinking. For instance, one European Commission prescription[2] is '… to develop the competencies for problem-solving and innovation, as well as analytical and critical thinking that are necessary to empower citizens to lead personally fulfilling, socially responsible and professionally-engaged lives'.

However, developing competences in this way may entail limitations at other levels – for instance, in relation to disciplinary conceptual knowledge. In recent years, concern has been expressed that an emphasis on competences might undermine conceptual structuring, arguing for instance that French students at the end of their secondary school 'see physics as disordered and anarchical'.[3] The question therefore arises of possible links between the development of critical attitude and conceptual progress in a given domain. This can be rephrased in operational terms: *Can we help students to develop their critical thinking in the absence of a conceptual basis*? Conversely, we might also ask whether advanced conceptual mastery within a given domain suffices to facilitate efficient critique.

To address these questions, I propose first to show that the latter statement is inaccurate. To characterize the possible connections between conceptual and critical development, I will then refer to a series of investigations involving future physics teachers at the end of their formation. Reporting their evolution during in-depth interviews on various topics in physics, I will focus in particular on the extent to which they criticize incomplete or incoherent explanations. The findings are presented in terms of 'intellectual dynamics' – that is, individual differences in the co-evolution of conceptual understanding and critical attitude. In conclusion, I shall discuss some implications for future research and teacher formation.

2   *Science Education for Responsible Citizenship*, European Commission, Report EUR 26893 EN, chair H. Hazelkorn (Brussels, 2015).
3   L. Villain, '61e congrès national de l'UdPPC'*, Bulletin de l'Union des Physiciens*, 107 (959) (2013), 2012.

Conceptual mastery does not always entail critical attitude: 'expert anaesthesia'

On the face of it, it seems reasonable to argue that developing conceptual mastery in our students will necessarily enhance their critical attitude, as evidenced by physics teachers' abilities in this regard. However, the various counter-examples below serve to demonstrate that this common idea is not self-evident.

A helium balloon in empty space
To develop students' critical faculty, a 'popular science' paper on the world freefall record from a French website for Grade 10 students was presented to 23 Ph.D. students and six in-service teachers. According to that account, the record-breaker ascended to an altitude of 40,000 meters in a helium balloon before jumping out and was then in freefall, given 'the absence of an atmosphere'. Among the questions posed on the website, none mentioned the strange circumstance of a helium balloon seemingly situated in a place where there was no air. Additionally, the participants were asked individually whether they would pose any questions to Grade 10 students to help them comprehend this text.[4] Despite their professional expertise, none of the participants mentioned that a helium balloon cannot reach a place where there is no air. This may be explained by various factors – in particular, that the paper focused on 'free' fall, an acceptable hypothesis given the very tenuous atmosphere at that altitude. In relation to the balloon, however, it is impossible to confuse (without serious incoherence) 'very low' with 'zero' pressure. As the website material targeted young students, such an approximate style may have negative consequences. We coined the term 'expert anaesthesia' to describe the lack of critical vigilance among the designers of this activity and the consulted participants, given that (for this topic) they all can be considered 'experts'.

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4   Id., 'Les promesses de l'Enseignement Intégré de Science et Technologie (EIST): de la fausse monnaie?', *Spirale*, 52 (2013), 59.

The ray box

While it is very common to 'show rays of light' using a horizontal sheet of paper lit through vertical slits, such experiments have long been criticized.[5]

Consider the 'ray box' often used to 'show rays of light going in straight lines' (Figure 1). One way of avoiding oversimplification in this context is to show how wavy slits produce wavy 'rays'. In both cases, what we see is *not* 'rays' but *shadows* of the mask and its slits. That we see such shadows attests in *both* cases to the rectilinear propagation of light, but neither experiment shows 'rays of light'. Rather, the illuminated streak on the paper is in fact a succession of spots, each lit by different beams. As a demonstration of rectilinear propagation of light, this set-up is visually effective but fundamentally incoherent. Moreover, it reinforces the common idea that light is visible from the side as if it were an ordinary object. This 'teaching ritual'[6] – an accepted and undiscussed teaching practice – is widely used in classrooms and museums. We contend that this implies a lack of critical vigilance in the users of this device, despite their 'expertise' concerning the rectilinear propagation of light.
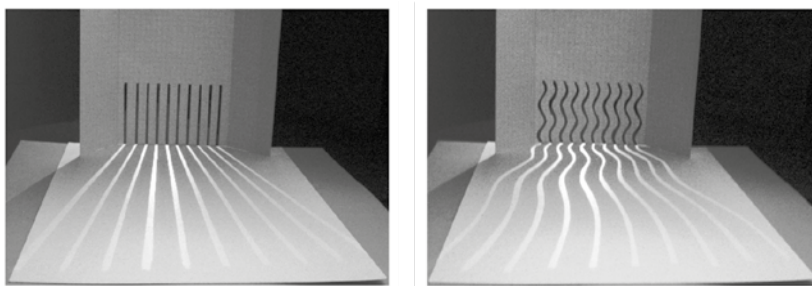
Fig 1. a: A 'ray box' is often used to 'show' the rectilinear propagation of light (there is a lamp behind the mask). b: A device evidencing that what is seen is a set of shadows (Kaminski, personal communication, 2005).

5   See, for instance, L. Viennot, F. Chauvet, P. Colin. and G. Rebmann, 'Designing strategies and tools for teacher training, the role of critical details', *Science Education*, 89 (2005), 16.
6   L. Viennot, 'Teaching rituals and students' intellectual satisfaction', *Physics Education*, 41 (2006), 400–8.

From these and other examples,[7] we posit that topic knowledge does not in itself suffice to support critical analysis of contestable texts or pedagogical suggestions in that same domain.

A series of investigations with future teachers

To analyse in more detail the connections between conceptual development and critical attitude, we conducted a series of investigations involving prospective physics teachers at the end of their formation, using different physics topics to evaluate any possible content dependence in our results.[8] In each case, participants were presented with a series of more or less contestable texts and invited to comment on these during in-depth interviews. In processing the transcripts, we pursued a double line of analysis: conceptual structuring and critical thinking. In conducting our analysis, we considered that posing a critical question or formulating a critical objection demands awareness of one's own state of comprehension and a search for intellectual satisfaction.[9] Beyond an attitude of mere doubt, this suggests an active search for meaning, perhaps related to psychological factors such as self-esteem or self-efficacy.[10] As these metacognitive and affective components of critical attitude seem *a priori* difficult to unravel,

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7   See also L. Viennot, *Thinking in physics. The pleasure of reasoning and understanding* (Dordrecht, 2014).

8   N. Décamp and L. Viennot, 'Co-development of conceptual understanding and critical attitude: analysing texts on radiocarbon dating', *International Journal of Science Education*, 37(12), 2038–63; L. Viennot and N. Décamp. 'Co-development of conceptual understanding and critical attitude: toward a systemic analysis of the survival blanket', *European Journal of Physics*, 37(1) (2016), 015702; L. Viennot and N. Décamp, 'Conceptual and critical development in student teachers: First steps towards an integrated comprehension of osmosis', *International Journal of Science Education*, 38 (14) (2016b), 2197–219; L. Viennot and N. Décamp, 'The transition towards critique, Discussing capillary ascension with future teachers', oral presentation, GIREP conference (Dublin, 2017); N. Décamp and L. Viennot, 'A concept-driven interactive pathway (CDIP) about electric current in simple DC circuits', oral presentation, GIREP conference (Dublin, 2017).

9   Viennot, *Thinking in physics*; I. Feller, P. Colin, and L. Viennot, 'Critical analysis of popularization documents in the physics classroom. An action-research in Grade 10', *Problems of Education in the 21st Century*, 17 (2009), 72–96; S. Mathé and L. Viennot, 'Stressing the coherence of physics: Students journalists' and science mediators' reactions', *Problems of education in the 21st century*, 11 (11) (2009), 104–28.

10   A. Bandura, 'Social cognitive theory: an agentic perspective', *Annual Review of Psychology*, 52 (2001), 1–26.

they may be characterized as 'metacognitive-critical-affective' (MCA).

Radiocarbon dating: frequent 'delayed critiques', rare 'expert anaesthesia'

Although well-known as a general topic, the details of radiocarbon dating are far from obvious, and popular accounts offer various incomplete explanations. In fact, beyond the exponential decay of radiocarbon in dead organisms and the role of ^{14}C half-life (5,730 years), a *relatively* complete and coherent explanation of this process should address at least the following points:

1. The need to know the initial proportion of radiocarbon to ordinary carbon in an organism at the time of its death;
2. The uniformity of this quantity in the atmosphere and in living beings;
3. The constancy of this quantity over time;
4. The process of formation of radiocarbon;
5. The process of radioactive decay of radiocarbon;
6. How the balance between corresponding numbers per second of radiocarbon atoms in these two processes results in a steady value of $[^{14}C/^{12}C]$ in the atmosphere;
7. The constancy of the total number of nuclei (radiocarbon + nitrogen);
8. The multiplicative effect of existing numbers of radiocarbon and nitrogen nuclei in the destruction and creation of ^{14}C nuclei, respectively;
9. How this multiplicative structure explains the stable proportion of radiocarbon to ordinary carbon in the atmosphere.

For this investigation,[11] we selected five documents from the Internet offering less complete accounts than the above list. We also designed a sixth document to explain how a steady state ^{14}C population can be achieved and maintained from an unbalanced initial situation. Ten prospective teachers were then presented with these documents in order of increasing completeness. For each document, each interviewee was invited to state the extent to which they were satisfied, or whether they would need further information. An example of a response exhibiting

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11   Décamp and Viennot, 'Radio-carbon dating'.

a critical attitude would be, 'How can there be a constant proportion of radiocarbon in the atmosphere? There is no radiocarbon decay in the atmosphere?'

The findings suggest two main intellectual dynamics in such a context. In the most frequent case of *delayed critique* (8/10), the participant offered no critique of a given text until they reached a certain threshold of conceptual comprehension, beyond mere logical necessity. This means that, even where the significance of some sentences was clear to them and might in principle raise a critical question, these participants did not react critically until they had deepened their comprehension of the topic. At that point, they proved capable of posing critical questions and rigorously reconsidered their previous critical passivity. Though less frequent (2/10), a second typical intellectual dynamics, *expert anaesthesia*, occurred in people who knew the given topic very well but offered no critical judgment of the given text, however incoherent or incomplete. *Delayed critique* links critical passivity to deficient conceptual mastery, as also observed in a study with student journalists (12/14) involving hot air balloons.[12] In contrast, *expert anaesthesia* suggests an opposite connection between conceptual comprehension and critical attitude, as in the case of the teaching rituals analysed above.

Early critiques: the case of osmosis
Another case serves to complete our description of advanced students' intellectual dynamics. *Early critique* designates an individual's expression of a critical view even when they know very little about the topic in question. Although observed in one participant in a study about survival blankets[13] this intellectual dynamics seems rare where the topic is unfamiliar to the participants.

Consider, for example, the topic of osmosis, which none of the five participants in that study mastered. When two compartments (e.g. of a U-tube), separated (e.g. at their bottom) by a semi-permeable membrane, are filled with equal volumes of two solutions with the same solvent and different concentrations of solute, the solvent passes from the less concentrated to the more concentrated solution. When equilibrium is reached, each compartment contains different levels

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12   Mathé and Viennot.
13   Viennot and Décamp, 'Survival blanket'.

and concentrations of the solutions. In this complex topic, several conceptual nodes must be understood, including the following: what is equal on both sides of a semi-permeable membrane at osmotic equilibrium is a physical characteristic of the *solvent* (chemical potential); in particular, it is not solute concentration. Participants were presented with diagrams found in Wikipedia[14] or with statements from a textbook[15] suggesting that osmotic equilibrium is reached when solute concentration is identical in both compartments (then at different levels).

Two early (and highly relevant) critiques were observed. In the first of these, the disputed statement was compared to a situation of obvious equilibrium between two identical solutions, with the same level in both compartments:

I would have conducted a similar experiment with the same levels … So, in order to convince people that it's not possible when starting from this situation, I would add some height to one of the compartments, saying that I have just disrupted the equilibrium, and that the system will necessarily evolve.

The second early critique was also very relevant, based on the simple idea that beginning with plain water in one compartment, it was impossible to reach zero concentration in the other compartment just by adding plain water:

With zero solute concentration in the right-hand compartment, the water would pass endlessly from right to left.

Although these future teachers knew very little about osmosis, they were able to localize an inconsistency at a very early stage and to argue about it.

Critique: 'vertical' or 'horizontal' connections'
One might wonder why most of the participants in our investigations seemed so reluctant to express a firm critique in the case of unfamiliar topics, even where they had (in principle) sufficient knowledge to do

14   http://fr.wikipedia.org/wiki/Osmose; http://en.wikipedia.org/wiki/Osmosis.
15   A. Bouissy, M. Davier, and B. Gaty, *Physique pour les sciences de la vie*, 3 (Paris, 1987), 110.

so, and why few of them were more liberated. Beginning from a state of uncertainty and defective memories from school, a participant might be tempted to adopt a safer approach by seeking to deepen their knowledge of the topic in what we describe as a 'vertical' progression, resulting in 'delayed critique'. Alternatively, they might choose to remain at the level of basic knowledge, as when the situation of obvious mechanical equilibrium is used to reject the equilibrium view of osmosis proposed in Wikipedia, or when an elementary knowledge of concentration and dilution suffices to reach the same conclusion. In such cases, we speak of 'horizontal connections'.

The role of MCA factors

In this context, *MCA* factors may play a decisive role, as numerous expressions of dissatisfaction, doubt or unease were observed in the course of the interviews. Metacognitive comments are especially revealing when participants articulate the reasons for their difficulties or their reluctance to critique. Among these, a feeling of incompetence was often mentioned:

As I have no particular competence in this domain, I am obliged to trust what I am taught …

I was not necessarily at ease with these notions, and I find myself in a situation where I don't have an opinion of my own. So, if someone finally offers me one, it integrates easily with what I accept.

Habits were often invoked:

I accept it because I always did so, but I never questioned the fact that …

It was my only conception, and this actually shakes up conceptions.

It may well be that, in delayed critique, the search for deeper understanding of the physics content reflects feelings of incompetence and difficulty in achieving distance from one's habits. A finding from a recent investigation involving capillary ascension[16] supports this hypothesis. Seven of the 11 participants articulated a relevant critique of a teaching ritual (capillary 'forces' represented on a line of contact)[17]

16   Viennot and Décamp, 'Capillary ascension'.
17   See, for instance, S. Das, A. Marchand, B. Andreotti, and J.H. Snoeijer, 'Elastic deforma-

but subsequently withdrew it, as if they did not dare to advance a critical judgment of a current practice.

In the case of one participant who enthusiastically accepted a new model of capillary ascension, we also observed a variant of expert anaesthesia, which we called *substitution*:

Once you have introduced this story of pressure (against the wall) … it's ok [to be tolerant vis-à-vis the document at hand]!

This comment clearly expresses the idea that, where we have a valid explanation, we do not need to criticize others. It seems clear that, for this participant, the most important thing is not to critique but to understand, moving from a state of frustration ('It doesn't explain anything!') to a sense of intellectual satisfaction:

It made me think, thank you.
This engages us to go further.

In the light of these findings, we contend that *MCA* factors should be seen as decisive in the evolution of critical attitude in student teachers' formation.

Recapitulation and final remarks

This presentation considers the possible connections between the conceptual development of advanced students – in this case, student teachers – and their critical attitude in relation to various texts purporting to explain physics phenomena. In-depth interviews enabled us to characterize participants' main intellectual dynamics – that is, the interplay of conceptual and critical elements in their responses to more or less contestable texts. Several physics topics were explored in this way to check the robustness and contextual variability of our initial findings.

In this context, the most frequently observed intellectual dynamics was delayed critique – the need to reach a certain threshold of conceptual

tion due to tangential capillary forces', *Physics of Fluids*, 23 (2011), 072006.

comprehension beyond mere logical necessity before expressing a critique of a given text. It seems useful in this regard to speak of a 'vertical' process of searching to deepen one's comprehension before expressing and committing to any critical argument. The rare opposite cases of early critique suggest that those participants were able to establish 'horizontal' connections between the proposed explanation and what they already knew, so remaining at a non-specialist conceptual level. Their thought experiments revealed an efficiency in posing critical arguments, even if the subsequent stability of their critical attitude was unwarranted. Finally, in the further observed dynamics of *expert anaesthesia*, experts in a given topic revealed their inability to articulate any critique, even in the case of texts that were inconsistent or incomplete. Symptomatically, a case of *substitution* – the idea that the availability of a relevant explanation dispenses with the need to critique others – might offer a better understanding of expert anaesthesia.

Our findings illustrate how we might help future teachers (and students more generally) to reduce the duration and effects of their critical passivity when they struggle to master the domain in question. Our studies to date support the view that the process of formation should develop critical attitude *alongside* conceptual understanding, in line with Willingham's position: 'Critical thinking is not a set of skills that can be deployed at any time, in any context'.[18] This further highlights the need to actively assist students rather than waiting for complete comprehension to activate their critical potential. It seems likely that *MCA* factors play a crucial role in the activation or blocking of critical expression. More generally, our findings suggest that much more can be learned from students' responses to an educational setting if analysis of their comments is not confined exclusively to conceptual aspects but encompasses possible *interconnections* between conceptual and metacognitive-critical-affective awareness.

In conclusion, we reaffirm the importance of thoroughly documenting the conditions and processes that allow future teachers and younger students to make more 'connected' development of their conceptual and critical capabilities.

18   D.T. Willingham, 'Critical Thinking: Why Is It So Hard to Teach?', *Arts Education Policy Review*, 109 (4) (2008), 22; on this 'critical debate', see also R.H. Ennis, *The degree to which critical thinking is subject specific: Clarification and needed research* (New York, 1992), 21–37 and J. McPeck, *Critical thinking and education* (New York, 1981).

Laurence Viennot is Emeritus Professor at Denis Diderot University. After her research in astrophysics, she moved to didactics of physics in 1971. She has been a member of the national committee in charge of preparing new curricula in physics for secondary schools in France (1995–2000) and a member of the first executive board of the European Science Education Research Association. She founded and headed a masters' in Didactics of Scientific Disciplines. Her professional interest in the quality of the teaching learning process has led her into research on common ways of reasoning in physics, design and evaluation of sequences, and teachers' reaction to innovative interventions. This topic gave rise to the European project Science Teacher Training in an Information Society (STTIS 1997–2001). In 2008 she helped launch the MUSE project (More Understanding with Simple Experiments) under the auspices of the Physics Education Division of the European Physical Society.

A large part of Viennot's research is synthesized in two books, *Reasoning in Physics* (2001) and *Teaching Physics* (2003). The links between conceptual understanding, critical reasoning, and intellectual satisfaction are now her main topic of research. Her present work is an original combination of the exposure of confusing or false explanations common in much everyday physics teaching and an acute analysis of their origins and causes, together with practical tested proposals for doing better and real evidence that these can work to give students and their teachers genuine intellectual satisfaction from their study of physics. Her latest book, *Thinking in Physics The pleasure of Reasoning and Understanding* (2014), is widely inspired by this concern. Viennot was awarded the medal of International Commission of Physics Education (2003) and the GIREP medal (2016).

Menz f'Narnia: (lil hinn mil)l-Ansjetà tal-Influwenza Letterarja fil-Qari mill-Ġdid tad-Dramm 'Soċjali-Simboliku' ta' Francis Ebejer

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Abstract: In the relatively short history of Maltese literature and its critique, literary influence was hardly ever understood as an opportunity for critics to explore the relationship, at times unconscious and elusive, between Maltese texts and works written overseas. This study renews the sporadic tradition employed by local critics like Ġu¿è Diacono who drew closer *Il-Fidwa tal-Bdiewa* by Ninu Cremona, a poetic play of high historical value in the Maltese theatre context, with *I Promessi Sposi* by Alessandro Manzoni. Diacono's study can serve as an analytical model of how to recognise the literary influence by a foreign literary work on a Maltese work. This study attempts to modify Diacono's metaphor of "debt," with which he describes the phenomenon of literary influence, to the more positive metaphor of "inheritance," as this evokes a sense of continuity, safeguarding and renewal; it promulgates the idea that the literary wealth is not meant to be lost in the dust-covered books forgotten on shelves but has a dynamic nature as it is inherited from one literary work to another. Writers will remain intrinsically connected, like links in a chain, with what was written before them. Harold Bloom is quite extremist in interpreting the notion of literary influence. He argues that anyone who came after Shakespeare was influenced by him. Is this a misfortune or a blessing? Literary influence, as it has no spatial or temporal limits and is not restricted to one artistic form, is more of an advantage than a form of inevitable curse. It is, above all, a source of inspiration. An artwork can inspire the creation of another artwork.

The main basic assumption is that when Ebejer wrote *Menz* he had already been exposed to the popular narrative *The Lion, The Witch and the Wardrobe* by C.S. Lewis. *Menz* was

performed at the Manoel Theatre, more than a decade after the publication of the work of Lewis. As Ebejer lived and studied in England and was a teacher of English, he was surely au courant of the recent publications within English literature. Hence, it is highly plausible that the Maltese playwright, has read the fictitious narrative set in Narnia. This study is based on the fundamental similarities between these two literary works – a correspondence that in my opinion is a clear manifestation of the literary influence that stimulated Ebejer to produce an original piece of literature. It will show how for Ebejer, the narrative of Lewis served only as an inspirational starting point.

Keywords: Menz; Narnia; Francis Ebejer; C.S. Lewis; simboliżmu; letteratura; kritika letterarja; kritika komparattiva; kanonu letterarju; influwenza letterarja; Harold Bloom; ansjetà letterarja; Teatru Malti

Din l-analiżi komparattiva se tesponi l-qrubija narratoloġika bejn id-dramm *Menz* ta' Francis Ebejer (li ttella' għall-ewwel darba fl-1967) u r-rumanz *The Lion, the Witch and the Wardrobe* ta' C.S. Lewis (li ġie ppubblikat fl-1950) billi tistudja l-proċess kreattiv simili li ħaddmu ż-żewġ kittieba. Madankollu, minkejja l-influwenza evidenti, mhuwiex fl-interess ta' dan l-istudju li jasserixxiha. Hawn se nuri biss il-plawsibbiltà li Ebejer, dak iż-żmien għalliem tal-Ingliż imħarreġ fis-St Mary's Training College ġewwa Middlesex, kien espost għall-influwenza letterarja tax-xogħol rinomat ta' Lewis, l-ewwel ktieb li nkiteb u li ġie ppubblikat fis-serje *The Chronicles of Narnia* imma li jiġi t-tieni jekk jitpoġġa fil-mixja kronoloġika sħiħa tas-seba' kotba. It-tressiq analitiku viċin xulxin ta' dawn ix-xogħlijiet se jsir fid-dawl ta' dak li jgħid Harold Bloom dwar l-ansjetà tal-influwenza letterarja[1] u kif din tista' tingħeleb minn awtur ġenjali bħal Ebejer kellu l-ħila jittraxxendi lil Lewis sabiex joħloq xogħol orġinali ieħor.

Il-qari mill-ġdid ta' *Menz* ġie ispirat mill-bżonn kostanti li nippreżenta lill-istudenti b'interpretazzjoni kritika li timraħ lil hinn mill-immedjatezza ristretta tat-test teatrali. Dan id-dramm, li huwa parti mis-sillabu tal-letteratura fil-livell postsekondarju,[2] u allura mill-preżunt 'kanonu letterarju Malti',[3] jista' jibqa' joffri spunti validi ta'

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1   Harold Bloom, *The Anxiety of Influence – A Theory of Poetry* (Oxford, 1997).
2   Deher għall-ewwel darba fis-sillabu tal-MATSEC fl-2012. Ara: ttps://www.um.edu.mt/__data/assets/pdf_file/0005/103973/AM22.pdf.
3   Korp li jista' jkun li jeżisti biss fl-inkonxju kollettiv tal-qarrejja u tal-kritiċi Maltin u li

interpretazzjoni li jżommuh ħaj u attiv bħala xogħol rilevanti kemm għal min qiegħed jistudja l-letteratura Maltija kif ukoll għall-qarrejja każwali. Il-letteratura tista' tipprovdi l-wiċċ għammiel li jqanqal d-dibattitu u r-riflessjoni (individwali jew komunali) billi tixpruna r-riviżitazzjoni u rievalwazzjoni ta' motivi li forsi mhumiex skaduti daqskemm jidhru għal xi wħud li jiddarrsu meta jisimgħu li l-letteratura tista' tittrażmetti xi tip ta' valur jew ieħor.

Il-qrubija ermenewtika bejn dawn ix-xogħlijiet tipprovoka l-mistoqsija: Jekk dawn iż-żewġ xogħlijiet artistiċi huma apparentament distinti u distanti (tant illi ħadd qabel ma' xebbahhom flimkien), is-similitudni ta' bejniethom hija biss konċidentali? It-teżi tiegħi hija li Ebejer qara x-xogħol ta' Lewis u saħansitra tnebbaħ minnu biex sawwar it-test tad-dramm. Irrid nagħmel premessa: hawn b'ebda mod ma qiegħed nitkaża b'xi tip ta' plaġjariżmu. Anzi, din hija opportunità tad-deheb biex jiġi esplorat il-proċess konjittiv tal-influwenza letterarja mġarrab anke minn kittieb tal-kalibru ta' Ebejer li kien kapaċi jmur lil hinn mill-ikkupjar u juża l-kapulavur ta' kittieb kreattiv bħal Lewis biex ixettel l-ispirazzjoni personali. Għaldaqstant, Ebejer jirnexxilu jegħleb l-ansjetà tal-influwenza letterarja ta' *The Lion, the Witch and the Wardrobe* u joħloq xogħol uniku u validu. Dan iseħħ, primarjament, meta Ebejer għadda mill-allegorija reliġjuża ta' Lewis għal allegorija soċjali. Hija l-mixja mill-moralità Nisranija għall-etika umanistika. Lewis ried jirrikontestwalizza l-ġrajja ta' Kristu filwaqt li Ebejer ried jirrikontestwalizza l-ġrajja ta' Lewis u japplikaha mill-ġdid għall-qagħda mwiegħra tal-individwalist li jittanta jissopravvivi f'soċjetà oppressiva.

Is-sottotitlu awtodefinittiv li bih Ebejer jiddeskrivi d-dramm bħala 'soċjali-simboliku,' apparti li jantiċipa l-kumment soċjali li joffri d-dramm, jenfasizza wkoll l-għodda ewlenija mħaddma mid-drammaturgu Malti. Is-simboliżmu Ebejerjan huwa fil-fatt elaborazzjoni tas-simboliżmu Kristjan ta' Lewis. Huwa kurjuż il-fatt li Ebejer, meqjus bħala missier it-teatru modern Malti u parti essenzjali mill-qawmien letterarju Modernista tas-sittinijiet, irrikorra għal motivi Nsara, u allura Romantiċi,[4] u rriċiklahom fil-proċess tal-kitba ta' *Menz*. Difatti

fattwalment, bħal f'ħafna pajjiżi oħra, jibqa' biss kunċett fluwidu li jiġġenera dibattitu perpetwu.

4   Dwar l-influwenza Romantika fil-kitbiet Modernisti ara l-istudju interessanti ta' Immanuel Mifsud, 'Fili: Ir-Romantiċiżmu modern tal-Moderni' f'*Fora Melitensia*, 2005.

l-allużjonijiet bibliċi ta' Ebejer huma fost l-aktar karatterisitiċi testwali li jqarrbu dan id-dramm lejn ir-rumanz ta' Lewis. Il-karatterizzazzjoni reminixxenti tal-protagonisti, Aslan ta' Lewis u Ġorġ ta' Ebejer, hija l-paradimma tal-għodda allegorika li spiss jirrikorru għaliha iż-żewġ kittieba. Il-mewt ta' Aslan u Ġorġ tiġi eżaltata bħala forma ta' redenzjoni; is-sagrifiċċju personali, b'analoġija ċara mal-mewt ta' Kristu, iwassal għas-salvazzjoni tal-oħrajn. Iż-żewġ awturi ma jillimitawx lill-karattri ewlenin tagħhom bil-mewt fiżika; Aslan u Ġorġ jittraxxenduha. Fil-mument tad-*denouement* taż-żewġ narrattivi tiddomina t-tema ċentrali għat-Testment il-Ġdid tar-rebħa tal-ħajja fuq il-mewt. Il-Mejda Ħaġrija (*Stone Table*) tixxaqqaq hekk kif Aslan iqum mill-mewt u, fi kliem Tereża, is-sagrifiċċju ta' ħajjet Ġorġ iwassal biex 'jixxaqqaq il-ħajt',[5] diskors li istantanjament ifakkar fit-testi tal-passjoni ta' Kristu.[6]

Menz f'Narnia: Karatterizzazzjoni reminixxenti

Ġorġ	Menz		Tereża	
Aslan	*Edmund*	*Peter*	*Lucy*	*Susan*
	(il-Professur Kirke)			
Ludilla B.	Il-Kennies		Il-Pulizija	
Ir-Reġina Saħħara	*Tumult*		*Maugrim*	

5   'Mela tassew li beda jixxaqqaq il-ħajt! U għad iżid bis-saħħa ta' Ġorġ' (*Menz*, 99). Ir-riferenzi għal *Menz*, huma meħuda mill-edizzjoni tal-2010, ippubblikata minn Klabb Kotba Maltin.

6   Ara Mattew 27, v. 51–2: 'U ara, il-purtiera tas-santwarju ċċarrtet fi tnejn minn fuq s'isfel; *l-art theżhżet, il-blat inqasam,* u l-oqbra nfetħu, *u qamu ħafna iġsma ta' qaddisin li kienu mietu,* li ħarġu mill-oqbra u wara *l-qawmien tiegħu* daħlu fil-Belt imqaddsa u dehru lil bosta nies' (Il-korsiv huwa tal-awtur preżenti).

L-analoġija allegorika ta' Aslan u ta' Ġorġ mal-figura ta' Kristu tissaħħaħ aktar mal-mixja narrattiva taż-żewġ xogħlijiet rispettivi. Madankollu, ma jfissirx li l-mewta erojka u r-redenzjoni jagħmlu lil Ġorġ kopja identika ta' Aslan. Ġorġ huwa differenti wkoll: għandu natural asoċjali u eċċentriku u l-karatteristiċi karatterjali tiegħu joqrobu aktar lejn dawk tal-antieroj fil-letteratura Maltija Modernista, kontemporanja għaż-żmien meta nħoloq. Aslan jibqa' l-eroj perenni u kostanti li jirradja kostantament it-tjubija. Madankollu, apparti s-sehem ċentrali u simili ta' Aslan u Ġorġ fiż-żewġ xogħlijiet, il-qari parallel jista' jkompli jikxef aktar analoġiji karatterjali. Huwa evidenti, primarjament minħabba d-don tal-għerf u l-abbiltà biex jipprovdi l-parir siewi fil-kapaċità tiegħu ta' *confidant*, li l-karatterizzazzjoni ta' Menz, il-personaġġ epinomu tad-dramm Ebejerjan, hija mfassla fuq l-arketip Jungjan tax-xiħ-għaref. F'Lewis dan l-arketip jiġi mlaħħam ukoll permezz tal-karattru tal-Professur Kirke, l-anzjan imdawwal, intellettwalment superjuri mill-bqija u għaldaqstant solitarju. It-tnejn huma mfittxijin għall-parir: Kirke jiġi mistoqsi dwar is-sigriet ta' Narnia mit-tfal u Menz isir il-*confidant* intimu ta' Tereża (u anke ta' Ġorġ). Iżda s-somiljanza ta' Menz fid-dinja ta' Narnia, fil-fehma tiegħi mhijiex ristretta biss għal dan il-karattru marġinali (fil-kuntest ta' *The Lion, the Witch and the Wardrobe*); minkejja l-età avvanzata, Menz jinkorpora fih ukoll elementi assoċjati mat-tfal, bħal-libertà psikoloġika, il-gost tal-iskoperta, ix-xenqa biex tinkiser ir-regola u d-dipendenza fuq l-omm. Il-personalità ambivalenti ta' Menz hija għalhekk imfassla fuq dik ta' żewġ karattri tfal, tnejn mill-erba' protagonisti Pevensie. In-naħa stojka tal-karattru ta' Menz toqrob lejn il-karattru ġust, stinat u qalbieni ta' Peter, filwaqt li n-naħa dgħajfa u malleabbli ta' Menz tista' tingħaraf fid-dawl tal-karatterizzazzjoni ta' Edmund. Menz jibqa' stinat quddiem l-avvanzi provokattivi tal-antagonisti tiegħu imma jkun debboli quddiem Ludilla B., il-gvernatur tal-belt li xxidd il-maskra ta' omm ħanina, dejjem lesta tipprovdi għal kull bżonn tas-sudditti tagħha. Edmund ukoll iċedi għar-Reġina Saħħara li intuwittivament tagħraf il-vulnerabbiltà karatterjali tiegħu u tixtrih bit-*Turkish Delight* (lakumja).

Donnu Ebejer ma ekonomizzax biss fit-tul tar-rakkont imma għamel l-istess fil-karatterizzazzjoni billi ħoloq karattru singolu bl-isfumaturi taż-żewġ subien protagonisti ta' Lewis. Iktar minn Lewis (li joħloq żewġ karattri separati u distinti), Ebejer jinkorpora fil-karattru

uniku ta' Menz id-duttrina antiteka Kristjana tal-ġisem u ruħ. Dan id-
duwaliżmu jissarraf f'karattru tond, u realistiku, li f'mumenti jżomm
sod mal-prinċipji li dejjem ħaddan iżda f'mumenti oħrajn iċedi taħt
pressjoni psikoloġika u soċjali. Min-naħa l-oħra, iż-żewġt itfal l-oħra,
Susan u Lucy, il-protagonisti femminili ta' Narnia, jistgħu jitqiesu
bħala l-mudelli li nbena fuqhom il-karattru ta' Tereża – wieħed mill-
iprem karattri Ebejerjani. Il-ħlewwa u r-reżiljenza femminili ta' Lucy
u Susan huma evidenti f'Tereża. Tereża toffri l-ottika bbilanċjata
bejn l-ideoloġiji soċjali estremi li jippreżenta d-dramm *Menz*; hija
l-personalità femminili b'saħħitha (tipikament Ebejerjan)[7] li kapaċi ssib
il-kompromess u, bħal Susan u Lucy, tinqala' biex trażżan lil dawk qrib
qalbha, tipproteġihom u tindikalhom l-aħjar soluzzjoni. Fuq kollox,
Tereża hija dik li, bħall-protagonisti tfal ta' Lewis, tagħder id-dgħufija
umana u jirnexxilha tibqa' leali sal-aħħar.

Fil-ġlieda dejjiema tat-tajjeb kontra l-ħażen li tiddomina t-tematika
taż-żewġ narrattivi tispikka, fuq in-naħa antagonista, il-figura tal-
femme fatale bir-rwol essenzjali li jisseduċi b'qerq u b'effiċjenza
lill-protagonist. Ir-Reġina Saħħara tittanta lil Edmund bit-*Turkish
Delight*, il-Gvernatur Ludilla B. tagħmel l-istess ma' Menz bil-pasti,
żewġ tentazzjonijiet li inċidentalment jevokaw il-frotta tal-Ġenesi.
Ebejer jkompli iseddaq is-simboliżmu enigmatiku tal- *femme fatale*
tiegħu permezz tal-isem li jattribwixxilha. Ħadd mill-karattri ta' fuq
il-palk, u lanqas mill-udjenza, ma jsir jaf xi tfisser l-inizjali 'B.' fil-
mod ta' kif isejħulha s-sudditi. Il-karattru Ebejerjan, bħal dak ta' Lewis
(għall-ewwel il-ħakkiema qarrieqa tippreżenta ruħha bħala 'r-Reġina
ta' Narnia' imma gradwalment, matul il-mixja narrattiva, tiġi esposta
n-natura qarrieqa ta' saħħara), iħaddan identità mċajpra u mistura.
Is-sudditi tagħha jridu jitqannew bis-'sigriet statali' (*Menz*, 32), dak
is-sens ta' segretezza u nuqqas ta' trasparenza li jipproteġi l-ħajja tal-
mexxej imma li jqanqal sens ta' suspett.

Apparti l-analiżi tal-inizjali, ta' min jistħarreġ ukoll l-għażla u
l-etimoloġija tal-isem 'Ludilla.' L-eqreb isem korrispondenti għalih
huwa dak ta' 'Ludmilla', isem ta' oriġini Slovakka msawwar minn
żewġ partijiet, '*lud*' (il-poplu) u '*mila*' (għall-qalb). Din il-mexxejja
li *prima facie* tidher 'għall-qalb il-poplu' kapaċi timmanipula lil
ħaddieħor billi malajr tindefikalu l-għarqub ta' Akille. Kemm Ludilla B.

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7   Biżżejjed tara l-karattri Ebejerjani ta' Ružann u ta' Marija f'*Il-Ħarsa ta' Ružann.*

kif ukoll ir-Reġina ta' Narnia jagħrfu x'hemm nieqes fil-ħajja ta' Menz u Edmund rispettivament u jwiegħdu li se jagħmlu tajjeb huma għalih. Fost is-servi indottrinati tal-ħakkiema, hemm aktar xebh karatterjali. Il-Kennies, l-ewwel karattru (sekondarju) li jilqa' lil Menz meta jasal fil-belt Ebejerjana, ifakkar f'Tumult, l-ewwel karattru Narnjan li tiltaqa' miegħu Lucy, li wkoll jaqdi r-rwol ta' spija għall-ħakkiema. Il-Kennies u Tumult huma mqabbdin ikunu l-widna obbligata tirrapporta kull ċaqliqa suspettuża, b'mod speċjali jekk din tkun ġejja mid-dinja esterna. Hawn għandna rappreżentazzjoni taċ-ċittadin ċkejken vittma tal-biża' trażmessa mill-potenti – huwa l-individwu bla saħħa li twemminu u l-konvinzjonijiet personali tiegħu jiġu kompromessi sforz it-theddid tar-retribuzzjoni.

Mixja narrattiva parallela

Menz jasal bil-ferrovija u jidħol fil-belt	Il-laqgħa mal-ewwel sudditu: il-Kennies	It-tentazzjoni tal-pasti	Il-waqgħa temporanja: Ludilla tikkondizzjona lil Menz	Ġorġ bħala l-iprem theddida għall-ħakma ta' Ludilla
It-tfal jaslu bil-ferrovija u jidħlu fir-renju (mill-gwardarobba)	*Il-laqgħa mal-ewwel sudditu: Tumult*	*It-tentazzjoni tat-*Turkish Delight	*Il-waqgħa temporanja: Ir-Reġina tikkondizzjona lil Edmund*	*Aslan bħala l-iprem theddida għall-ħakma tar-Reġina*
Ġorġ imut minħabba Menz (qtil-spettaklu)	Ġorġ immortali: l-ispirtu tiegħu jġib bidla fl-abitanti	Tereża tisqi l-antitodu (għat-tradiment) lil Menz	Il-prefigurazzjoni tal-ġlieda finali bejn il-forzi tat-tajjeb kontra il-forzi tal-ħażen	Ir-rebħa (ssuġġerita) tal-forzi tat-tajjeb
Aslan imut minħabba Edmund (qtil-spettaklu)	*Aslan immortali: iqum u jġib bidla fl-abitanti*	*Lucy tisqi l-antitodu (għat-tradiment) lil Edmund*	*Il-ġlieda finali bejn il-forzi tat-tajjeb kontra il-forzi tal-ħażen*	*Ir-rebħa tal-forzi tat-tajjeb*

Minkejja is-somiljanzi notevoli fil-proċess ta' karatterizzazzjoni, l-akbar turija ta' influwenza letterarja tinħass fil-binja korrispondenti tal-plott. Iż-żewġ rakkonti jibdew bl-introduzzjoni ta' suġġett barrani, jew 'frustier' (*Menz*, 12, 13, 15, 18), f'realtà soċjali oħra. Dan il-barrani (jew barranin fil-każ ta' Narnia) huwa deprivat mill-kura diretta tal-ġenituri (b'enfażi fuq l-figura tal-omm), vojt fiżiku u psikoloġiku li fiż-żewġ każijiet jimtela mill-ħakkiema opportunista u manipulatriċi. Kemm it-tfal tal-familja Pevensie, kif ukoll Menz, jiġu ttrasportati fir-realtà ġdida permezz tal-ferrovija. Skont Downing, Lewis ġie ispirat minn esperjenza reali: fl-1939 ra b'għajnejh il-miġja fil-Kilns (fejn kellu r-residenza tiegħu) ta' tfal evakwati minħabba t-Tieni Gwerra Dinjija[8] (p. ix). Il-motiv ta' persuni trażlokati, motiv li fiċ-ċirkostanzi nazzjonali tagħna, bħala gżira li tospita ħemel ta' nies provenjenti minn ambjenti soċjali oħra, għadu rilevanti sal-lum, jitħaddem ukoll bħala motiv-ċavetta li jintroduċi l-problematika ewlenija tad-dramm Ebejerjan, jiġifieri l-addattament tal-istranġier u r-riskju tal-isfruttament fil-konfront tiegħu minn min jospitah.

Il-mument klajmatiku fil-mixja narrattiva Ebejerjana tal-laqgħa bejn Menz u l-Gvernatur Ludilla B. jevoka l-istanti meta fil-bidu tar-rumanz Edmund jiltaqa' ma' dik li tippreżenta lilha nnifisha bħala r-Reġina ta' Narnia. Fiż-żewġ ċirkostanzi għandna personalità li tuża s-superjorità konjittiva tagħha biex tabbuża minn min hu taħtha soċjalment. B'intuwizzjoni straordinarja tagħraf l-aktar bżonn imminenti tas-suddittu u tipprovdilu soluzzjoni li tiggratifikah istantanjament – il-metodu li jinħassu r-reżonanzi tiegħu fil-klijentaliżmu li lokalment għadu attiv u meqjus bħala mod effettiv ta' kif politiku jixtri l-voti bl-irħis, jew, inċidentalment, bil-*hampers*. It-*Turkish Delight* ta' Lewis issir il-pasti ta' Ebejer – is-simbolu tal-konvenzjoni, tad-dipendenza, u taċ-ċaħda tal-libertà intellettwali. Apparti x-xenqa għal dan l-ikel ħelu ta' valur nutrittiv fqir, iż-żewġ manipulatriċi jagħrfu li l-vittmi tagħhom isofru minn nuqqas psikoloġiku kroniku – in-nuqqas tal-preżenza materna, b'Menz li huwa evidentament ikkondizzjonat mill-Kumpless Edipiku. Fiż-żewġ każijiet, il-ħakkiema opportunista timla dan il-vakwu emottiv konvenjentament bil-preżenza fiżika tagħha. Ir-Reġina ta' Narnia mhix kuntenta li ħatfet lil Edmund biss iżda trid lil ħutu

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8   David Downing, *Into the Wardrobe: C. S. Lewis and the Narnia Chronicles* (San Francisco, 2005).

wkoll bħalma Ludilla B. trid taħtaf kompletament ukoll iż-żewġ naħat tal-psike ta' Menz: in-naħa Edmunjana li tissodisfa x-xewqat naturali (iddominata mill-istint) u n-naħa, assoċjata mal-karattru ta' Peter, li tissodisfa l-għatx konjittiv (iddominata mir-raġuni). Kemm ir-Reġina kif ukoll Ludilla B. ifallilhom il-pjan – it-tfal l-oħra ma jinqabdux mir-Reġina u Menz ma jinħakimx totalment mill-paraliżi psikika u mill-indottrinazzjoni ta' Ludilla B. u beltha.

F'Kapitlu 7 tar-rumanz ta' Lewis ifeġġ il-karattru sekondarju tal-Beaver li jibża' mill-ispiji tar-Reġina Saħħara; dan ukoll huwa reminixxenti tal-ispiji li skont Tereża jinsabu f'kull rokna tal-belt Ebejerjana, 'Tħarisx, imma ninsabu mdawrin minn kotra nies – warajna, f'kull ġenb, qisu kullimkien, ċirku sħiħ madwarna, iħarsu lejna' (*Menz*, 19). Il-Beaver u l-protagonisti tfal jieklu l-ħut, filwaqt li Menz jiekol il-ħobż u jixrob l-inbid – kemm il-ħut kif ukoll il-ħobż u l-inbid huma simboli assoċjati mill-qrib mal-Kristjaneżmu u jalludu għal episodji bibliċi, bħall-miraklu tal-ħames ħobżiet u taż-żewġ ħutiet jew bħall-episodju kruċjali tal-aħħar ċena. Dan l-ikel huwa essenzjali għall-bniedem kemm fuq livell fiżiku kif ukoll, mill-perspettiva simbolika-Kristjana, fuq livell spiritwali, f'kuntrast mat-*Turkish Delight* u l-pasti li joffru l-mexxejja ta' din l-art li kapaċi jmantnu biss ix-xejriet mundani tal-ħajja tal-bniedem. Dan id-didattiċiżmu sottili u mistur ta' Lewis jenfasizza punt essenzjali – il-bniedem li jiżbalja ma għandu qatt jaqta' qalbu mill-ħniena divina. Kulħadd għandu ċans jifdi lilu nnifsu bħal Edmund li ntebaħ li għażel ħażin u ngħata l-opportunitÃ jerġa' jingħaqad mal-kawża ta' Aslan u bħal Menz li minkejja li f'Att 2 deher li ċeda għall-pressjoni tal-belt, fl-epilogu Ebejerjan nintebħu li ma ċediex għal kollox u baqa' jagħmel parti mill-kawża individwalista. Hawn Edmund u Menz jevokaw it-tradiment ta' San Pietru u r-rikonċiljazzjoni sussegwenti tiegħu.

Il-mument li fih Ġorġ isir popolari minħabba l-arrest u, konsegwentament, il-qtil tiegħu, ifakkar fiż-żmien tar-rebbiegħa li fih il-ħlejjaq ta' Narnia ċċelebraw il-miġja ta' Aslan. Dan huwa l-mument fundamentali tant mistenni li Lewis ried li jiġi assoċjat immedjatament mal-miġja ta' Kristu, il-Feddej tal-ħolqien kollu. Dan jagħmlu bl-inseriment kurjuż tal-karattru ta' Santa Klaws li jimmarka l-festa tal-Milied, festa li ġiet abolita matul ir-renju tar-Reġina Saħħara u li issa saret timplika ż-żmien tal-bidla. F'Kapitlu 11 l-annimali ta' Narnia jagħmlu

festin minħabba l-miġja ta' Aslan u l-Milied; fl-att finali tad-dramm Ebejerjan, il-bidla fil-poplu minħabba Ġorġ tinħass fi kliem Tereża u saħansitra fuq fomm Razz, 'Fil-belt hemm nuqqas ta' kwiet. In-nies ma nafx kif qed narahom' (*Menz*, 100). Ta' min jinnota li Menz, l-instigatur ta' din il-bidla, huwa wkoll influwenzat mill-karatterizzazzjoni ta' Santa Klaws – bħalu ġarr xkora mimlija oġġetti simboliċi li ħariġhom ftit ftit f'mumenti opportuni matul il-mixja narrattiva.

F'Kapitlu 13 ta' *The Lion, the Witch and the Wardrobe* isseħħ il-laqgħa kulminanti bejn il-kapijiet antitetiċi tat-taqbida morali, Aslan u r-Reġina, laqgħa li tikkorrispondi ma' dik bejn Ġorġ u Ludilla B. fi tmiem Att 2 tad-dramm Ebejerjan (li preċedentament fl-istess att ġiet antiċipata bil-laqgħa bejn Menz u l-istess Ludilla, liema laqgħa kellha eżodu oppost għal dik bejn Ġorġ u Ludilla). Ir-rebħa apparenti tal-forzi tal-ħażen fuq it-tajjeb twassal intenzjonalment għal antiklajmaks temporanju fil-mixja narrattiva taż-żewġ xogħlijiet. Il-konklużjoni effettiva u utli tal-laqgħa hija li l-eroj huwa obbligat jagħti ħajtu għat-traditur; hekk Aslan kellu jiġi ssagrifikat flok Edmund u Ġorġ flok Menz. Hawn l-allegorija Kristjana tiċċara aktar ruħha – il-motiv ċentrali tar-redenzjoni tal-ieħor permezz tas-sagrifiċċju personali tas-suġġett hija imfassla fuq il-misteru tas-salvazzjoni ta' Kristu. Paradossalment, il-mewt twassal għall-fidwa morali ta' dawk li jitħallew ħajjin – il-perspettiva antipoda tal-ħajja mibnija fuq kliem Kristu stess, 'Tassew tassew ngħidilkom, jekk il-ħabba tal-qamħ ma taqax fl-art u tmut, hi tibqa' weħidha; imma jekk tmut, tagħmel ħafna frott.'[9] Ġorġ jinqatel u permezz tiegħu titqanqal il-mewġa għall-fidwa tal-belt kollha; Tereża wkoll tiġi lliberata fuq livell binarju – dak personali (issolvi l-kunflitt amoruż) u dak soċjali (issolvi d-duwaliżmu ideoloġiku li kien qed jifniha). Minkejja li issa f'periklu fiżiku imminenti, din it-taħlila tissarraf f'Tereża li taf lil min trid u xi trid. L-istess Edmund. Wara l-antiklajmaks, f'Kapitlu 15 jintlaħaq b'mod emfatiku l-klajmaks narrattiv meta Aslan iqum u jirbaħ lill-mewt, klajmaks li Ebejer jissuġġerih biss permezz tal-karattri tiegħu li jittamaw f'qawmien spiritwali fil-belt li jwassal għar-rebħa fuq il-forzi tal-ħażen ippersonifikati f'Ludilla B.

Paralleliżmi oħrajn mad-dramm *Menz* jispikkaw ukoll fil-qari tal-aħħar żewġ kapitli tar-rumanz ta' Lewis. F'Kapitlu 16, Aslan jonfoħ fuq l-istatwi tal-ġebel u dawn jieħdu l-ħajja mill-ġdid. Ebejer ukoll ipoġġi statwa ta' annimal li tibqa' preżenti tul it-tliet atti tad-dramm. Huwa jagħżel l-istatwa

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9   Ġw:12:24

ta' Pegasu sabiex iżżejjen simbolikament il-funtana tal-pjazza. Bħal fil-każ ta' diversi annimali fantastiċi li jutilizza Lewis,[10] Ebejer jagħżel ukoll dan l-annimali mitoloġiku biex jissimbolizza l-fatt li xi darba din il-belt kienet ħajja spiritwalment. Xi darba Pegasu, bħall-annimali Narnjani, kien jiċċaqlaq (u saħansitra jtir) imma ġie kkastigat u sar vittma ta' inkanteżmu qarrieqi. Issa li Pegasu tilef il-kapaċità li jtir, u saħansitra tgħabba b'sarġ, jimplika li ċ-ċittadini tilfu l-kapaċità li jkollhom rajhom f'idejhom. Fi kliem Menz innifsu, 'It-tron fuq dahar iż-żiemel tal-ġwienaħ. Miskin, min jaf kemm ilu ma jinqata' mill-art. Rabba' l-għeruq fl-art, u ġwinħajh issa, x'jiswew iktar? Tiżjin biss. Biċċa xogħol maħsuba sewwa. Tapit aħmar, u żiemel min jaf kemm hu xiħ, ikrah, imma darba kellu l-ġwienaħ' (*Menz*, 50, 51). Hemm bżonn ir-riħ tal-bidla, ir-riħ bħal dak li nefaħ Aslan fuq l-annimali ġeblija jew bħalma Alla nefaħ fuq il-forma taflija ta' Adam. Fl-aħħar kapitlu ta' *The Lion, the Witch and the Wardrobe* hemm ukoll analoġiji interessanti maddramm Ebejerjan. Hawn Lucy tisqi l-antitodu maġiku lil Edmund it-traditur biex isalvah fiżikament u spiritwalment; hekk ukoll Tereża tisqi lil Menz l-antitodu tagħha (jiġi ssuġġerit li dan huwa kompost minn taħlita ta' kafe u velenu) biex issalva spiritwalment lil Menz. Hawn Ebejer, li mhuwiex ristrett mil-limiti morali assoċjata mal-letteratura għat-tfal, jinkludi fil-final is-suġġett kontradittorju tal-ewtanażja u jippreżentah minn ottika pożittiva. L-għan jiġġustifika l-mezz u t-tajjeb jirrenja finalment fuq livell personali. Paradossalment, it-tmiem drammatiku huwa pożittiv: in-naħa Edmundjana ta' Menz tingħeleb mill-ispirtu determinat reminixxenti ta' Peter. Fi kliem Tereża, l-ispirtu individwalista jibqa' rebbieħ għall-eternità,

M'għelibtuhx. Kissirtuh, għaffiġtuh, imma ma għelibtuhx. Ġorġ … Ġorġ … mhux għalxejn … Ma stajtu tagħmlu xejn ma' dan [Menz], u qiegħda nifraħ. Xwejjaħ, xwejjaħ, ta' spirtu! U miet … miet (tagħmel idejha ma' wiċċha) għax għażel hu stess li jmut, ġiegħel lilu nnifsu jmut … ħieles … imjassar minn ħadd … (*Menz*, 104).

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10   Il-figura mitoloġika ta' Pegasu ġiet użata wkoll minn Lewis fl-ewwel ktieb (kronoloġikament) tan-narrattiva ta' Narnia, *The Magician's Nephew*; din il-kreatura titkellem issemmiet Fledge minn Aslan fil-mument li ngħatawlha l-ġwienaħ; qabel ma' wasal f'Narnia, Fledge kien fil-fatt jismu Strawberry. Fledge kellu l-inkarigu jġorr lil Digory (fil-fatt dan huwa l-Professur Digory Kirke meta kien żgħir) u Polly, żewġ karattri tfal oħra lejn il-ġnien mistur fil-muntanji fejn Digory ġie akkużat li qata' tuffieħa (ovvjament hawn titħaddem l-allużjoni biblika tal-ġrajja ta' Adam u Eva fil-Ġnien tal-Eden). Inċidentalment, Digory u Polly kienu qed jippruvaw jeħilsu mill-Imperatriċi Jadis li eventwalment saret magħrufa bħala s-Saħħara l-Bajda. Strawberry sar missier iż-żwiemel kollha li jtiru f'Narnia.

Temi u motivi korrispondenti

In-natura politematika taż-żewġ xogħlijiet tippermetti l-inkorporazzjoni ta' għadd ta' temi, komuni bejniethom, li jolqtu l-esperjenza umana mill-qrib, fosthom it-tradiment, il-fiduċja, it-trasformazzjoni, il-kollaborazzjoni, il-kuraġġ u ċ-ċediment quddiem l-avversità. Imbagħad hemm it-tema ċentrali u prominenti tat-taqbida bejn it-tajjeb u l-ħażin li, bħal fil-każ ta' ħafna xogħlijiet letterarji oħrajn, tiddomina ir-rumanz u d-dramm diskussi f'dan l-istudju. Kemm ir-renju ta' Narnia kif ukoll il-belt anonima ta' *Menz* huma maħkumin minn dittatorjat li *prima facie* jidher li huwa permanenti. Fir-rumanz ta' Lewis dan jimmaterjalizza ruħu f'xitwa eterna mingħajr qatt ma jasal il-Milied; fid-dramm ta' Ebejer dan ifisser żmien ta' staġnar perpetwu fl-aspetti kollha tal-ħajja soċjali. Fiż-żewġ xenarji tinħass il-prefigurazzjoni tal-bidla radikali. Il-miġja minn barra tal-protagonisti tfal u ta' Menz (ilkoll ġejjin minn realtà esterna għall-ambjent soċjali) isservi ta' katalista li tixpruna lil Aslan u lil Ġorġ (li minn ewl id-dinja kienu jagħmlu parti mill-imsemmi ambjent soċjali) biex jirreaġġixxu kontra l-qagħda mwiegħra li fiha kienu jinsabu n-Narnjani u l-beltin rispettivament.

Motiv li wkoll huwa prevalenti fiż-żewġ narrattivi huwa dak tal-gula. Il-konsum tal-ikel fl-eċċess, fil-kuntest tal-konsiderazzjoni tal-idea Aristoteljana li l-aħjar triq hija dik tan-nofs għax dak kollu li huwa fl-eċċess jagħmel ħsara lill-bniedem, jintuża bħala motiv ċentrali minn Lewis u minn Ebejer sabiex jesponi d-dgħufija karatterjali ta' Edmund u Menz. F'kuntrast mal-frotta, illustrata tradizzjonalment bħala tuffieħa, li biha ġie ttantat il-bniedem fil-Ġenesi, iż-żewġ kittieba mistħarrġa għażlu ikel kaloriku u nieqes min-nutrijenti siewja għall-ġisem bħala dimostrazzjoni tal-qerq tal-ħakkiema tiranna li mhux biss tinganna lis-sudditti tagħha imma li gradwalment iddgħajfilhom saħħithom u tikkunsmahom psikoloġikament.

Motiv komuni ieħor li tħaddem similarment minn Lewis u minn Ebejer huwa l-motiv tas-simboliżmu mitoloġiku bl-iskop li l-awturi jkunu anqas didattiċi u iktar kreattivi f'kitbiethom. Minkejja l-fama ta' apoloġista tal-Kristjaneżmu, Lewis ma tnaffarx milli juża simboliżmu mitoloġiku misluf minn reliġjonijiet pagani fil-ħolqien tal-allegorija Nisranija, tant li xi kritiċi jikkategorizzaw xogħlu fil-garżella tal-

mitoloġija Kristjana.[11] Fost il-ħafna karattri mitoloġiċi li jippopolaw ir-renju ta' Narnia, apparti l-utilizzazzjoni għaqlija ta' Pegasu, tispikka l-figura mitoloġika tal-*faun* – minn qaddu 'l fuq, Tumult huwa bniedem u minn qaddu 'l isfel huwa annimal. Ebejer jaddotta b'inverżjoni din l-immaġni; fil-bidu tad-dramm, fl-edizzjoni ppubblikata fl-2010, f'didaskalija kurjuża hemm imniżżel,

Waqt il-provi, l-awtur li kien qed jagħmilha wkoll ta' producer[12], ġieh il-ħsieb li lil tal-lukanda u tat-taksi jxiddilhom maskri, wieħed ta' mogħża u l-ieħor ta' ħanżir. Għaldaqstant il-brieret imsemmija fl-iskript ma ntużawx. (*Menz*, 3)

Iktar minn hekk, f'riċensjoni li dehret f'gazzetta tal-1967, is-sena li *Menz* ittella' fuq il-palk għall-ewwel darba, huwa ddokumentat li waqt id-dramm, preċiżament fil-mument tal-mewt ta' Menz, dawn 'iż-żewġ rappreżentanti tas-soċjetà lebsin il-maskri niżlu fuq erba' saqajn' biex jeżaltaw it-telfa (apparenti) tal-għadu tagħhom. Inċidentalment, f'dan l-artiklu qasir u kif jixhed it-titlu tiegħu ('Menz: From the Houyhnhnms to Animal Farm'), Scerri jpoġġi lid-dramm ta' Ebejer 'x'imkien bejn Swift u Orwell', b'referenza għax-xogħlijiet tagħhom *Gulliver's Travels* u *Animal Farm* – żewġ rumanzi li wkoll jutilizzaw annimali antropomofrizzati.

Ġorġ, li jħares lejn iċ-ċittadini bħala estensjoni tal-mexxejja tagħhom, fl-aqwa waqtiet tas-sovverżjoni u tal-konfrotazzjoni tiegħu magħhom, juża wkoll dan is-simboliżmu annimalesk. Spiss jgħajjarhom 'nagħaġ' u jimita l-ħoss ta' dan l-annimal meta jindirizzahom ('Hawn mhux post in-nagħaġ. Beeeeeq! Ħufffff, Ħufffff! Arahom')[13] għax in-natura psikika taċ-ċittadini, fi ħsieb Ġorġ, hija aktar ovina milli umana. Lewis juża wkoll il-motiv tal-pitirross fin-narrattiva tiegħu – element ieħor assoċjat mat-tradizzjoni Nisranija. Flok il-pitirross, Ebejer juża għasfur ieħor marbut mal-istess tradizzjoni. Is-serduk, bis-simboliżmu skontat tiegħu, jidden tliet darbiet biex jimmarka l-mument li fih Menz ittradixxa l-kawża individwalista.

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11   Ara, pereżempju, Martha C. Sammons, *A Far-off Country: A Guide to C.S. Lewis's Fantasy Fiction* (Michigan, 2000).

12   Godwin Scerri, 'Menz: from the Houyhnhnms to Animal Farm', *Malta News*, 4 ta' Diċembru 1967.

13   *Menz*, 31.

Menz lil hinn minn Narnia

Fi kliem Harold Bloom, Ebejer ifarfar minn fuqu l-ansjetà tal-influwenza letterarja ta' Lewis b'diversi strateġiji narrattivi sabiex, minkejja s-somiljanzi analizzati, jirrendi x-xogħol tiegħu oriġinali u uniku. Dan twettaq, essenzjalment, meta Ebejer mexa mill-allegorija reliġjuża ta' Lewis għall-allegorija soċjali kif saħaq huwa stess meta ddeskriva xogħlu bħala dramm li primarjament huwa intenzjonat biex jipprovdi kumment dwar is-soċjetà u l-kriżi tal-individwalista li jitħajjar jgħammar fiha. Apparti d-diversifikazzjoni ovvja tal-ġeneru, Ebejer imur lil hinn mir-rumanz ta' Lewis ukoll minħabba l-udjenza li kellu f'moħħu waqt il-proċess tal-kitba. Lewis kiteb letteratura predominalment għat-tfal, għalkemm ħadd mhu se jżomm lill-adulti milli jaqrawha. Anke l-karattri ewlenin ta' Lewis huma tfal. Mill-banda l-oħra, f'*Menz* jeżistu biss karattri adulti u l-udjenza mixtieqa hija deċiżament adulta, udjenza li ppermettiet lid-drammaturgu biex jelabora l-imsemmija aspetti kumplessi bħat-teorija ta' Edipu u l-ewtanażja. Probabbilment din il-kontradistinzjoni hija dovuta għall-fatt li f'*The Lion, the Witch and the Wardrobe* Lewis jittratta l-fażi tal-bidu tal-ħajja umana bil-protagonisti li jibdew jimirħu fid-dinja allegorika li jixħethom fiha, filwaqt li Ebejer assimetrikament jittratta l-fażi tat-tmiem il-ħajja umana, b'karattru ewlieni għajjien bit-toqol taż-żmien u li saħansitra jċedi għal dal-piż u jmut fl-aħħar tad-dramm. Fi dramm suċċessiv, *Il-Ġaħan ta' Binġemma*, Ebejer reġa' qabad narrattiva popolari tat-tfal u mmetamorfizzaha fi dramm li huwa mifhum aħjar mill-kbar. Ebejer kompla jseddaq l-oriġinalità ta' xogħlu billi elabora tema oħra li hija aktar idonea għall-pubbliku matur – it-tema tal-kumplessità relazzjonali, tema li fi kliem Oliver Friggieri hija *leitmotif* ewlieni tiegħu.[14] Apparti r-relazzjoni skabruża bejn Menz u l-omm (immaġinarja) li ġie jfittex, Ebejer jiffoka fuq ir-relazzjonijiet amorużi, speċifikament fuq it-trijangolu relazzjonali, fundamentali għad-dramm, bejn Ġorġ, Tereża, u Razz. Tereża taqdi funzjoni binarja f'dawn iż-żewġ settijiet ta' relazzjonijiet – hija tassumi r-rwol ta' omm għal Menz u ta' sieħba (spiritwalment) għal Ġorġ u (fiżikament) għal Razz.

Fil-konfini ristretti ta' dan l-istudju, ridt nistħarreġ il-possibbiltà li d-dramm *Menz* jitqies bħala xogħol letterarju li ispira ruħu minn

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14   Oliver Friggieri, *Dizzjunarju ta' Termini Letterarji* (Malta, 2000), 412.

xogħol speċifiku ieħor iżda li waqt il-proċess kreattiv tal-kitba tiegħu, l-awtur seħħlu joħloq biċċa letteratura ġdida u unika. Apparti l-motiv tat-trijangolu amoruż intrikat u l-eżawriment tal-motiv Edipiku li jbegħduh bis-sħiħ mir-rumanz ta' Lewis, fid-dramm Ebejerjan jispikka karattru partikolari: Razz, il-karattru essenzjali u distint mill-bqija, il-konformista li fil-final drammatiku jsir il-benjamin tal-individwalisti. Huwa l-karattru tond per eċċellenza li fil-fehma tiegħi jikkontribwixxi l-aktar għall-oriġinalità tad-dramm, l-iprem kriterju li skont kritiċi internazzjonali[15] jikkwalifika xogħol letterarju għall-akkwiżizzjoni ta' status kanoniku. Għalkemm *Menz* xi drabi jinqabeż fil-ġerarkija tal-aqwa drammi ta' Ebejer, l-inklużjoni tiegħu fis-sillabu tal-letteratura Maltija tagħtih attenzjoni ġdid u għarfien misthoqq. Il-qari mill-ġdid tad-dramm, anke fid-dawl tas-somiljanza mar-rumanz imsemmi f'dan l-istudju, jerġa' jtella' fil-wiċċ l-għan ewlieni li aktarx kellu f'moħħu d-drammaturgu meta kitbu – l-għan li l-pubbliku jingħata l-opportunità biex iġarrab mument, forsi llum dan il-mument qed isir rari iktar minn qatt qabel, ta' awtoriflessjoni bil-possibbiltà li jasal għal eżami tal-kuxjenza. L-esplorazzjoni ta' temi personali u soċjali tipprovoka l-analiżi eżistenzjali tal-funzjonalità, jew in-nuqqas tagħha, tal-individwi fi ħdan il-qafas soċjali u kif dan tal-aħħar jeżerċita l-influwenza tiegħu biex jikkontrollahom. Fuq kollox, Ebejer, bħal Lewis, jitfa' t-tama tiegħu fir-reżiljenza umana;[16] bit-tmiem intelliġenti u ambivalenti tiegħu, Ebejer jissuġġerixxi li ċ-ċirkostanzi miżeri mgħixa mill-karattri ta' *Menz* appik li se jinbidlu għall-aħjar. Nagħlaq billi nappella lil dawk li għandhom għal qalbhom it-teatru, biex jagħtu ċans, imqar għal darba oħra, lill-udjenza biex tesperjenza dan ix-xogħol tal-aqwa moħħ teatrali Malti bħala dramm imtella' fuq il-palk u mhux biss bħala test drammatiku moqri fi ktieb.[17]

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15   Kull forma ta' oriġinalità letterarja għandha l-potenzjal li ssir parti mill-kanonu, Harold Bloom, *The Western Canon* (New York, San Diego, & London, 1994). Sabiex jiddeskrivi x'jifhem b'oriġinalità, Bloom jintroduċi l-kunċett tal-'istramberija kanonika' bħala l-kriterju jew il-kundizzjoni li timmarka l-mertu letterarju ta' xogħol.

16   Interessanti l-għażla tal-isem 'Menz' – kunjom Ġermaniż li jfisser 'saħħa' u 'qawwa' (skont *Dictionary of American Family Names*, Oxford, 2013). Menz, minkejja l-mument ta' dgħufija f'Att 2, jibqa' b'saħħtu u qawwi fir-rieda għax sal-aħħar nifs ta' ħajtu jibqa' ma jikkomformax mal-impożizzjoni tas-soċjetà billi jirrifuta l-konsum tal-pasti.

17   Dan id-dramm ittella' fl-1967 u fl-1991. Sfortunatament, eluf ta' studenti studjaw *Menz* bħala test moqri imma qatt ma kellhom l-opportunità jarawh fuq il-palk.

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In Search of the Fastest Sorting Algorithm

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Abstract: This paper explores in a chronological way the concepts, structures, and algorithms that programmers and computer scientists have tried out in their attempt to produce and improve the process of sorting. The measure of 'fastness' in this paper is mainly given in terms of the Big O notation.

Keywords: sorting, algorithms

Sorting is an extremely useful procedure in our information-laden society. Robert Sedgewick and Kevin Wayne have this to say: 'In the early days of computing, the common wisdom was that up to 30 per cent of all computing cycles was spent sorting. If that fraction is lower today, one likely reason is that sorting algorithms are relatively efficient, not that sorting has diminished in relative importance.'[1] Many computer scientists consider sorting to be the most fundamental problem in the study of algorithms.[2] In the literature, sorting is mentioned as far back as the seventh century BCE where the king of Assyria sorted clay tablets for the royal library according to their shape.[3]

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1   R. Sedgewick, K. Wayne, *Algorithms*, 4th edn. (USA, 2011), Kindle Edition, Locations 4890-4892.
2   T.H. Cormen, C.E. Leiserson, R.L. Rivest, C. Stein, *Introduction to Algorithms*, 3rd edn. (USA, 2009), 148.
3   N. Akhter, M. Idrees, Furqan-ur-Rehman, 'Sorting Algorithms – A Comparative Study', *International Journal of Computer Science and Information Security*, Vol. 14, No. 12, (2016), 930.

Premise

My considerations will be limited to algorithms on the standard von Neumann computer. This model has an architecture that does not permit multithreading, i.e. a program executes instructions in a strictly sequential manner. Besides, I will only consider internal sorting. For the sake of brevity, I will not go into space complexity.

Throughout the paper 'n' will always indicate the number of elements to be sorted.

Radix-sort – 1880

In 1880, prior to completely-electronic computers, the Radix-sort was being used in Herman Hollerith's tabulating machines that read and processed information from punched cards.[4] In 1954 at MIT Harold H. Seward wrote the Radix-sort as a computer algorithm for the multi-purpose programmable machine.[5] Radix-sort is an integer algorithm but it can sort on keys that can be converted to integers. It works on an array even though, as often happens in algorithms, it can be modified to work on tries.[6] It is non-comparative and has time complexity of O(nd) for the worst, average, and best cases ('d' represents the number of digits in the largest number).[7] Two types of Radix-sorts are LSD (based on the least significant digit) and MSD (based on the most significant digit). LSD is fast and stable, faster than comparison sorts (these need O(n log n) comparisons and at best their time complexity is O(n log n)). MSD is not necessarily stable but the algorithm can be modified to make it stable.[8]

4   P. Kadam, S. Kadam, 'Root to Fruit (2): An Evolutionary Approach for Sorting Algorithms', *Oriental Journal of Computer Science of Technology*, (2014), Vol. 7, No. 3, 371.
5   Wikiwand, 'Radix Sort', https://www.wikiwand.com/en/Radix_sort (accessed 26 July 2017).
6   Ibid.
7   Codingeek, 'Radix Sort – Explanation, Pseudocode and Implementation', http://www.codingeek.com/algorithms/radix-sort-explanation-pseudocode-and-implementation/ (accessed 3 August 2017).
8   Wikiwand, 'Radix Sort'.

The First Sorting Algorithms on Computers – 1945 till 1960

From the early days of electronic computers (ENIAC was completed by February 1946)[9] until 1960, a number of other sorting algorithms were invented.[10] The main ones are briefly described below.

Merge-sort

In 1945 John von Neumann, the great mathematician with special interest in computers, wrote the Merge-sort.[11] It is a divide-and-conquer algorithm that divides the sequence to be sorted recursively in two halves. The recursive halving continues until the subdivisions contain only one value or is empty. At this stage, the subdivided parts are recursively merged together until there are no more subdivided parts. Merge-sort is a comparison algorithm and works on arrays. It is stable and in its original form is not in-place. Tweaks on the code can make it in-place.[12] Its time complexity is O(n log n) in all three cases (worst, average, and best).[13] There are also parallel implementations of Merge-sort.[14]

Insertion-sort

Insertion-sort, which was invented by John Mauchly in 1946,[15] takes the values one by one and inserts them in a sorted sequence. During processing, the values are held in an array. The algorithm is in-place. Time complexity is $O(n^2)$ for the worst and average cases and O(n) in the best case.[16] It is efficient only on small sets of data.

Even though the Selection, Bubble, and Insertion sorts all have the same time complexity, in practice the efficiency of the Insertion algorithm is superior to the other two.[17]

9   *Encyclopaedia Britannica*, *ENIAC,* https://www.britannica.com/technology/ENIAC (accessed 4 August 2017).

10   Kadam, Kadam, 371; H.M. Mahmoud, *Sorting: A Distribution Theory* (USA, 2000), 250.

11   Kadam, Kadam, 371.

12   Codingeek, 'Merge Sort Algorithm – Explanation, Implementation and Complexity', http://www.codingeek.com/algorithms/merge-sort-algorithm-explanation-implementation-and-complexity/ (accessed 5 August 2017).

13   Wikiwand, 'Sorting Algorithm', https://www.wikiwand.com/en/Sorting_algorithm (accessed 5 July 2017).

14   Wikiwand, 'Merge Sort', https://www.wikiwand.com/en/Merge_sort (accessed 3 July 2017).

15   Kadam, Kadam, 371.

16   Wikiwand, 'Insertion Sort', https://www.wikiwand.com/en/Insertion_sort (accessed 5 August 2017).

17   Ibid.

Insertion-sort is stable, in-place, online, and adaptive. If in the input sequence each element is misplaced by no more than k positions, then the time complexity is O(nk).[18]

Over the years there were several modifications employed on the Insertion-sort to improve the O(n^2) time complexity. One of these was by D.L. Shell whose algorithm compares elements separated by a distance. On subsequent passes this distance is reduced until finally becoming 1 as in the original algorithm. The algorithm is known as Shell sort. Two Shell-sort variants require O(n$^{3/2}$) and O(n$^{4/3}$) running time. Another modification to the insertion-sort is the Binary-Insertion-sort (which employs the binary search), devised also by Mauchly in the same year, which quickens the way a value from the unsorted part is inserted in the sorted part. The algorithm, however, still runs on O(n^2).[19] Binary-Merge-sort (designed in 1972 by F.K. Hawang & S. Ling[20]) makes use of the Binary-Insertion-sort to speed up the Merge-sort on large data sets.[21] Another important sorting algorithm derived from Merge-sort and Insertion-sort and designed to perform well on many kinds of real-world data is Timsort, implemented by Tim Peters in 2002.[22] In 2006 Bender, Martin Farach-Colton, and Mosteiro published a new variant of Insertion-sort called Library-sort (or Gapped Insertion-sort). This algorithm leaves gaps between the sorted values so that an insertion would save time on shifting values.[23]

Counting-sort

Counting-sort (like Radix-sort), invented by Harold H. Seward in 1954, is an integer-sorting algorithm where a counter for each number is kept to see how many times it occurs in the input sequence.[24] This information is kept in an array. From this array, the sorted sequence is easily formed. It runs in O(n + k) time, where 'k' is the number of possible values in the range.[25]

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18   Ibid.
19   Ibid.
20   Kadam, Kadam, 371.
21   Wikiwand, 'Insertion Sort'.
22   Wikiwand, 'Timsort', https://www.wikiwand.com/en/Timsort (accessed 6 August 2017).
23   Wikiwand, 'Insertion Sort'.
24   Wikiwand, 'Counting Sort', https://www.wikiwand.com/en/Counting_sort (accessed 6 August 2017).
25   Growing with the Web, 'Counting Sort', http://www.growingwiththeweb.com/2014/05/

The counting-sort is best adopted in situations where the ratio of the number of different keys as compared with the number of elements is small. It often appears as a subroutine in Radix-sort. It is not a comparison-sort. It is stable but not in-place.[26]

Parallel sorting can easily be applied in Counting-sort. The array can be subdivided into a number of sub-arrays and processing on each sub-array can be performed simultaneously. Then the results from each sub-array need to be merged together.

Bubble-sort

Bubble-sort is a slow in-place comparison sort. The time complexities are $O(n)$ (best case) and $O(n^2)$ (average and worst cases). It is very popular in schools but very inefficient in practice and therefore not practical when n is large. It is slower than the insertion-sort even when the input sequence is almost sorted.[27]

In 1956, Friend E. in his paper 'Sorting on electronic computer systems' analysed the Bubble-sort referring to it as Sorting by Exchange. K. Iverson used the name 'Bubble-sort' in 1962. In 1963 it is found named as 'Shuttle-sort'.[28]

The sort compares consecutive elements and swaps if necessary. The sort may need more passes before all the sequence is sorted. In the case of sorting in ascending order, the large values move quicker to the right than small values move to the left. For this reason, a bi-directional Bubble-sort, called Cocktail-sort, was designed with the pointer reversing its direction after each pass. Another variation, called Comb-sort, compares values separated by a distance. In this way, the movement of values is quicker.[29] This distance, it was found out empirically, has to be reduced by a factor of 1.3 for the best results.[30]

Many computer scientists (e.g. Espelid, Knuth, Yao, etc.)[31] have produced formulae of time complexities for given gap sequences.

counting-sort.html (accessed 6 August 2017).

26   Wikiwand, 'Counting Sort'.
27   Wikiwand, 'Bubble Sort', https://www.wikiwand.com/en/Bubble_sort (accessed 11 July 2017).
28   O. Astrachan, 'Bubble Sort: An Archaeological Algorithmic Analysis', *ACM SIGCSE Bulletin*, Vol. 35, No. 1 (2003), 94.
29   Ibid.
30   GeeksforGeeks, 'Comb Sort', http://www.geeksforgeeks.org/comb-sort/ (accessed 6 August 2017).
31   Ibid.

Bucket-sort

Bucket-sort is a comparison sort that first divides the elements into different buckets and then sorts each individual bucket. Finally, the sorted buckets are merged. One can implement such an algorithm by means of an array of linked lists where each linked list would hold the elements of a bucket. This sort has existed since the late fifties.[32]

Counting-sort is a special case of Bucket-sort where the bucket holds just one value.

The Bucket-sort makes use of a Hash function to calculate in which bucket a value should be posted. It helps if the elements are uniformly distributed because in this case the buckets will contain more or less the same number of elements. If the buckets are unbalanced the bucket process would not be effective.

The average time complexity is $O(n + k)$ and $O(n^2k)$ for the worst case ('k' stands for the number of buckets).[33]

Quicksort 1961

In 1961 Hoare created Quicksort which is a very clever and elegant divide-and-conquer algorithm. The algorithm chooses one value from the input sequence, referred to as the 'pivot', and, by a series of comparisons and swaps, it puts all the values less than the pivot to its left and all the values bigger than the pivot to its right. If there are values equal to the pivot, these are grouped in a middle sequence which includes the pivot. By means of recursion, each left and right section is subdivided into smaller and smaller subdivisions until a subdivision is either empty or it contains only one element in which case the subdivision is obviously sorted. The algorithm, developed by C.A.R. Hoare in 1959 and published in 1961, is a non-stable comparison sort.[34]

Unlike Merge-sort, another known divide-and-conquer algorithm, Quicksort is in-place and this saves the need of auxiliary memory. Quicksort has a best and average-case complexity of $O(n \log n)$ and a worst-case complexity of $O(n^2)$. Efficiency, however, is dependent on

32 Mahmoud, 250.
33 Wikiwand, 'Sorting Algorithm'.
34 Wikiwand, 'Quicksort', https://www.wikiwand.com/en/Quicksort (accessed 4 August 2017).

the choice of the pivot. There are various strategies for the choice of the pivot. Two known schemes are the linear-median-finding and the Las Vegas algorithm.[35] Back in 1975 Robert Sedgewick's Ph.D. thesis treated many problems related to pivot selection strategies.[36] To this day Quicksort (and Merge-sort) are still the subject of modifications and tweaks in an attempt to make it as adaptable to all forms of inputs as possible.[37]

Trees and other data structures – 1962 until 1994

During this period, more sorting algorithms were invented. Some of them made use of trees. One of these is the Heap-sort devised by J.W.J. William in 1964.[38] It has a worst-, best-, and average-case performance of O(n log n). It is a comparison and in-place algorithm but it is not stable. This sorting algorithm makes use of the heap data-structure and is divided into two steps (i) place input data in a heap, (ii) remove the largest (or smallest) element and place at the end (beginning). Continue in this way until the tree is empty.[39]

A variant of Heap-sort, designed by Edsger Dijkstra and called Smooth-sort, was published in 1981. Dijkstra did not use the heap but he devised a non-binary heap based on the Leonardo numbers. He improved the best-case performance to O(n).[40]

In the early 1960s C.L. Mallows invented Patience-sort. This algorithm first finds increasing sub-sequences and it then merges them. Its best-case performance is O(n).[41]

Topological-sort, invented by Arthur B. Kahn in 1962, places data to be sorted in a directed acyclic graph and then visits the nodes to

35   S. Devadas, Lecture 6, 'Randomization: Matrix Multiply, Quicksort' of *Design and Analysis of Algorithms*, MIT open courseware, 2015, https://www.youtube.com/watch?v=cNB2lADK3_s (accessed 4 August 2017).
36   Wikiwand, 'Quicksort'.
37   H. Zhang, B. Meng, Y. Liang, *Sort Race* (2016) https://arxiv.org/ftp/arxiv/papers/1609/1609.04471.pdf (accessed 4 August 2017), 1.
38   Wikiwand, 'Heapsort', https://www.wikiwand.com/en/Heapsort (accessed 12 August 2017).
39   Ibid.
40   Wikiwand, 'Smoothsort', https://www.wikiwand.com/en/Smoothsort (accessed 12 August 2017).
41   Wikiwand, 'Patience Sorting', https://www.wikiwand.com/en/Patience_sorting (accessed 12 August 2017).

produce the sorted output. The algorithm is most fruitful in the case where not all values have a sorting relation between each other.[42]

Regarding Quicksort both Hoare and Sedgewick implemented the idea of leaving the small sub-arrays to be sorted by means of Insertion-sort. All subarrays that contain less than M elements are sorted by means of Insertion-sort. Sedgewick gives the best value of M as that between 6 and 15.[43]

J. Bentley (1984), basing his work on N. Lomuto's ideas, proposed a scheme with two pointers that start from the left and move to the right. Another software change, due to Sedgewick (1998), was to divide the sequence in three and not two divisions. The divisions are (i) smaller than the pivot, (ii) equal to the pivot, and (iii) bigger than the pivot.[44]

R.L. Wainwright developed Bsort (1985) and Qsorte (1987). Both are based on Quicksort. Bsort is designed to work best for nearly sorted lists as well as nearly sorted in reverse. In such cases the algorithm has time-complexity of $O(n)$.[45] It also improves the average-case behaviour. Qsorte (Quicksort with early exit for sorted sub-sections) uses the middle key as pivot. Sub-sections that are sorted are marked so that they will not continue to be subdivided recursively.[46]

In 1978 Sedgewick created a modified version of Quicksort, called SedgewickFast to minimize the number of swaps. For random data and also data sorted in reverse the number of comparisons is $O(n \log n)$.[47]

In 1991, B. McDaniel wrote about variations of Quicksort one of them being Quicksort-Rotate. This version rotates values under given conditions. The worst case, however, is still $O(n^2)$.[48]

qsort7 is a fast variant of Quicksort developed in 1993 by J.L. Bentley and M.D. McIlroy. This version chooses the pivot according to the size of the array. It differentiates between array sizes of less than

42 Wikiwand, 'Topological Sorting', https://www.wikiwand.com/en/Topological_sorting (accessed 12 August 2017).

43 L. Khreisat, 'Quicksort: A Historical Perspective and Empirical Study', *IJCSNS International Journal of Computer Science and Network Security*, Vol. 7, No. 12, December 2007, 54.

44 Ibid.

45 R.L. Wainwright, 'A Class of Sorting Algorithms based on Quicksort', *Communications of the ACM*, Vol. 28, No. 4 (1985), 397.

46 R.L. Wainwright, 'Quicksort Algorithms with an Early Exit for Sorted Subfiles', *Proceedings of the 1987 Fifteenth Annual ACM Computer Science Conference* (1987), 185.

47 L. Khreisat, 'Quicksort: A Historical Perspective and Empirical Study', 57.

48 Ibid., 58.

7, between 7 and 40, and greater than 40. Still, the worst-case employs $O(n^2)$ time-complexity.[49]

L.R. Ford and S.M. Johnson in 1959 published the Merge-Insertion sort (name given by Donald Knuth since the algorithm contains both merge and insertion techniques). The algorithm seeks to minimize the number of comparisons. It is most suitable for small values of n (5 or 6).[50]

In 1964 K.E. Batcher invented the Merge-Exchange (comparison) sort that merges pairs of sorted sub-sequences. It is particularly useful when a number of comparisons can be performed simultaneously.[51]

L.J. Woodrum in 1969 and A.D. Woodall in 1970 wrote about the Merge-sort worked out with linked lists instead of the sequential array. This solution is faster by about 10 to 20 percent and uses less memory space. It is also stable.[52]

Another Merge-sort is Natural-Merge-sort where the input sequence is scanned and sorted consecutive elements are grouped and then merged.[53]

Introsort – 1997

Introsort was devised by David Musser. It has an average and worst-case performance of O(n log n). It is a hybrid algorithm with a fast average performance in practice. It applies Quicksort but switches to Heap-sort when a subsequence is short. Introsort was written for the C++ Standard Library. Musser applied the median-of-3 for the choice of the pivot and reported improved times when compared with the original Quicksort. The Microsoft .NET Framework Class Library as from version 4.5 (2012) makes use of Introsort.[54]

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49   A. Shorman, A. Shorman, *An Experimental Study of Quicksort Algorithm and Its Variants Reveals New Variant,* https://www.academia.edu/31489885/Project_Title_An_ Experimental_Study_of_Quicksort_Algorithm_and_Its_Variants_Reveals_New_Variant_ TABLE_OF_CONTENTS, (accessed 12 August 2017), 7, 10, 11.
50   D.E. Knuth, *The Art of Computer Programming*, 2nd edn., Vol. 3: Sorting and Searching (USA, 1998), 184, 186, 381.
51   Ibid., 111, 381.
52   Ibid., 166, 381.
53   Ibid., 160.
54   Wikiwand, 'Introsort'*,* https://www.wikiwand.com/en/Introsort downloaded (accessed 11

In a paper by Zhang et al[55] running times of sorting algorithms are recorded. When compared with the sorts Insertion, Heap, Shell, Merge, Quicksort, C library qsort and Timsort, Introsort resulted the fastest on a randomized sequence of 200,000 values. Overall (taking elements reversely sorted, nearly sorted, etc) it had fourth average time. Quicksort was the fastest.

In the same year FlashSort was introduced. Its creator is Karl-Dietrich Neubert. If the input data is uniformly distributed its time complexity in the best case is $O(n)$, $O(n+r)$ in the average case ('r' is the range of numbers to be sorted), and $O(n^2)$ in the worst case.[56]

It is based on the classification of elements and not on comparisons. Although classification algorithms are known to require a lot of memory space, FlashSort requires less than $0.1n$.[57]

Sorting in O(n log log n) – 1998

The 1998 paper 'Sorting in Linear Time?'[58] presents an algorithm that sorts n integers in time proportional to n log log n. Stefan Nilsson (one of the authors of the paper) in an article written in 2000[59] claims that this algorithm is the fastest if one goes by the number of operations executed to sort integer data on a von Neumann computer.

Some algorithms, like Radix-sort, work in linear time on condition that the word length (w) of the computer is greater or equal to log n. The Andersson *et al*. algorithm does not depend on word length. It works in two phases. In the first phase, Radix sorting techniques are used to reduce the size of the numbers. In the second phase, packed merging is performed on the shortened numbers.[60] This result improves the o($n\sqrt{\log n}$) expected time for integer sorting obtained Fredman and Willard[61] in 1990.

August 2017)
55   H. Zhang, B. Meng, Y. Liang, 2.
56   Wikiwand, 'Sorting Algorithm'.
57   Khreisat, 59.
58   A. Andersson, T. Hagerup, S. Nilsson, R. Raman, 'Sorting in Linear Time?', *Proceedings of the 27ᵗʰ Annual ACM Symposium on the Theory of Computing* (1995), 427.
59   S. Nilsson, 'The Fastest Sorting Algorithm?', *Dr. Dobb's* (1 April 2000), 38.
60   Ibid.
61   M.L. Fredman, D.E. Willard, 'Surpassing the Information Theoretic Bound with Fusion

Timsort and the Han-Thorup Algorithm – 2002

Timsort is a widely used hybrid (built on the Merge and Insertion sorts) sorting algorithm with an average and worst-case performance of O(n log n) and a best-case performance of O(n). It is stable and adaptive. It was implemented by Tim Peters in 2002 for use in the Python programming language. Peters designed it to perform well on many kinds of real-world data.[62]   He used techniques suggested by Peter McIlroy in a 1993 paper.[63]

Timsort divides the input data in a series of sub-sequences (runs) of data ordered in non-descending or descending order. The descending runs are reversed and then all runs are merged. If a sub-sequence is shorter than the value of variable minrun (a number usually from 32 to 64 inclusive) a number of elements that follow it are added to it using Insertion-sort. This is one of a number of measures taken by this algorithm to quicken the process of sorting. Another measure is making the number of runs to be merged equal or close to a power of two.[64]

Timsort keeps track of runs by pushing a reference onto a stack. It executes an almost in-place sort. The merge process is optimized to save on the number of comparisons. In this process, binary search is used. When merging starts, the algorithm may make use of galloping if, for a particular consecutive number of times, only values from one sub-sequence are chosen.[65]

Since Python version 2.3, Timsort has been its standard sorting algorithm. It is also found in Java SE 7 to sort arrays of non-primitive types.

In 2002 Y. Han and M. Thorup published a paper[66] in which they described a complex randomized integer sorting algorithm with $O(n\sqrt{\log \log n})$ expected time and linear space. This lowers the upper

Trees', *Journal of Computer System Sciences*, Vol. 47 No. 3 (1993), 425.

62   Wikiwand, 'Timsort'.

63   P. McIlroy 'Optimistic Sorting and Information Theoretic Complexity', *Proceedings of the Fourth Annual ACM-SIAM Symposium on Discrete Algorithms* (1993) 467–674.

64   Wikiwand, 'Timsort'.

65   Ibid.

66   Y. Han, M. Thorup, 'Integer Sorting in $O(n\sqrt{\log \log n})$ Expected Time and Linear Space', *Proceedings of the 43rd Annual IEEE Symposium on Foundations of Computer Science* (2002), 135–44.

bound reached by Andersson et al[67] in 1995. Also, if the integers are bounded by U, the sorting can be done in O($n\sqrt{\log \log U}$) expected time. They assume that each integer fits in a machine word (so that each operation on integers would require only one instruction).

Library-sort – 2006

Library-sort is a tweaked Insertion-sort proposed by Michael A. Bender, Martín Farach-Colton, and Miguel Mosteiro in a 2006 paper.[68] Its time complexities are: O(n^2) in the worst case, O(n) in the best case and O(n log n) in the average case (with high probability).[69]

The main idea of the library-sort is to insert gaps between the elements so that an insertion in the sorted part does not require the time-consuming shift of elements. Library-sort is a stable and online comparison sort. Because of these gaps, memory consumption is high. Library-sort uses rebalancing so that the gaps are equally spaced. To save time in finding where an element should be inserted, the binary search is used.[70]

Recent algorithms 2004–2017

In 2004 R. Sinha and J. Zobel[71] introduced Burst-sort on strings. It makes use of a compact trie and the concept of buckets. This simple, fast, and efficient algorithm was tested empirically by Sinha and Zobel. It is fast, owing to the fact that it attains a low rate of cache misses. Its average and worst time complexity is O(wn) where 'w' is the word length.[72]

67   Andersson, Hagerup, Nilsson, Raman.
68   M.A. Bender, M. Farach-Colton, M.A. Mosteiro, 'Insertion Sort is O(n log n)', *Theory of Computing Systems*, Vol. 39, No. 3 (2006) 391–397.
69   Wikiwand, 'Library Sort'*,* https://www.wikiwand.com/en/Library_sort (accessed 21 August 2017).
70   Ibid.
71   R. Sinha, J. Zobel, 'Cache-Conscious Sorting of Large Sets of Strings with Dynamic Tries', *Journal of Experimental Algorithmics*, Vol. 9, Article 1.5 (2004).
72   Wikiwand, 'Burstsort'*,* https://www.wikiwand.com/en/Burstsort (accessed 25 August 2017).

In 2006 Ayala-Rincón *et. al*[73] wrote a variant of the Merge-Insertion-sort calling it $_4$FJ. They succeeded in reducing the administrative space to 33% of the original Merge-Insertion-sort without increasing the number of comparisons. This is attained by recursively working on over a quarter of the input instead of half.[74]

Also in 2006, Sundararajan and Chakraborty[75] proposed SS06 (called 'new sorting algorithm' in their paper) which is based on Quicksort. It requires an auxiliary array as big as the array holding the input sequence. There are no swaps. Every element is compared to the pivot. If the element is smaller than the pivot it is put in the first empty position in the auxiliary array. If not, it is placed in the last empty position. It takes O(n log n) in the average case and O(n^2) in the best and worst cases.[76]

In 2009 V. Yaroslavskiy[77] experimented with Quicksort with two pivots, i.e. partitioning in three parts. He showed that this method is faster when compared with known implementations.

In 2013, Lam and Wong[78] introduced Rotated-Library-sort. The original Insertion-sort runs in O(n^2), Library-sort runs in O(n log n) while this new algorithm runs in $O(\sqrt{n}\log n)$. It also requires less space than Library-sort.

In 'Sort Race', a 2016 paper,[79] the authors experimented with their own versions of Quicksort and Merge-sort. They timed different sorting programs to compare their duration. When the sorts Insertion, Heap, Shell, Merge, Quicksort, qsort (the sorting function in the GNU C Standard Library), Timsort and Introsort were executed on random data, Introsort was the fastest with Quicksort a close second. Overall (i.e. considering also times for reversely sorted input, nearly sorted and few unique) Quicksort was the fastest.

73 M. Ayala-Rincón, B.T. de Abreu, J. de Siqueira, 'A variant of the Ford-Johnson algorithm that is more space efficient', *Information Processing Letters*, Vol. 102, No. 5 (2007), 201–7.
74 Ibid.
75 K.K. Sundararajan, S. Chakraborty, 'A new sorting algorithm', *Applied Mathematics and Computation*, Vol. 188, No. 1 (2007),1037–38.
76 Shorman, Shorman, 7, 10.
77 V. Yaroslavskiy, *Dual-Pivot Quicksort Algorihm*, http://codeblab.com/wp-content/uploads/2009/09/DualPivotQuicksort.pdf, (accessed on 20 August 2017).
78 F. Lam, R.K. Wong, 'Rotated Library Sort', *Proceedings of the Nineteenth Computing: The Australasian Theory Symposium* (2013), 21–6.
79 H. Zhang, B. Meng, Y. Liang.

Then five different Merge-sorts were created (mer2, mer3 … mer6) and compared with qsort, Timsort, and Neat-sort (a practical adaptive algorithm that reads the input values one by one and creates sorted lists that are then merged). On random values Timsort was the quickest with one version of Merge-sort (mer6) a close second. Then different types of Quicksort were tested against Bentley and McIlroy's qsort function, 3-way Quicksort, 2-way Quicksort, Introsort, mer6, Timsort, and qsort. One hybrid version of Quicksort was the best performer.

In 2012 Dalhoum *et al.*[80] presented a Quicksort algorithm, called MQuickSort, based on a dynamic pivot selection. The algorithm is data-dependent and this fact increases the chances of splitting the array or list into relatively equal sizes. The proposed algorithm converts the worst-case into a best-case behaviour with $\Theta(n)$ execution time. The algorithm is capable of recognizing a sorted array or sub-array that does not require further processing. The idea is to find the pivot by calculating the average of the values.

Conclusion
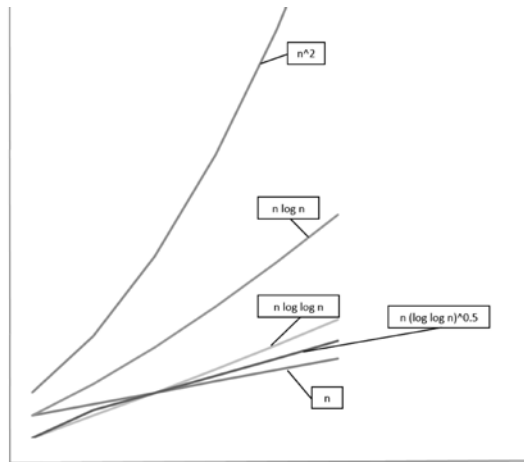
Fig. 1 The graphs of the functions n^2, n log n, n log log n, $n\sqrt{\log\log n}$, and n

80   A. L. Abu Dalhoum, T. Kobbay, A. Sleit, M. Alfonseca, & A. Ortega, 'Enhancing QuickSort Algorithm using a Dynamic Pivot Selection Technique', *Wulfenia Journal,* Vol. 19, No. 10 (2012), 543–52.

Besides the sorting algorithms seen here there were other attempts and tweaks to find faster sorting algorithms. Compression,[81] specialized hardware structures,[82] external sorting,[83] amongst others, were all studied. This study treated only internal sorting. The quality of sorting was evaluated mainly by means of the Big O notation. It is very evident from the graph above that the algorithm that mostly drew near the O(n) lower limit, which cannot be lowered for obvious reasons (this is because each entry has to be read), is the Han-Thorup algorithm.

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81   A. Lo´ Pez-Ortiz, M. Mirzazadeh, M. Ali Safari, H. Sheikhattar, 'Fast String Sorting Using Order-Preserving Compression', *ACM Journal of Experimental Algorithmics*, Vol. 10, Article 1.4 (2005), 1–12.
82   S. Abdel-Hafeez, A. Gordon-Ross, 'An Efficient O(N) Comparison-Free Sorting Algorithm', *IEEE Transactions on Very Large Scale Integration Systems*, Vol. 25, No. 6 (2017), 1930–42.
83   K. Yaron, Y. Hadas, 'External Sorting on Flash Storage: Reducing Cell Wearing and Increasing Efficiency by Avoiding Intermediate Writes', *The VLDB Journal*, Vol. 25, No. 4 (2016), 495–518.

The Connection between Literature and Aesthetics: Is it Problematic?

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Abstract: Most literary critics are reluctant to accept the relevance of aesthetics to literature. This paper aims to show how aesthetics can be related to literature in terms of values, among other concepts. The aesthetic experience and the aesthetic value of literature have long been discussed resulting in many divergent theories from philosophers in general and aestheticians in particular. This paper revisits Peter Lamarque's objections to the connection between aesthetics and literature and argues for and against these objections, referring to accounts written by several philosophers, amongst whom Monroe C. Beardsley, Robert Stecker, Noël Carroll, and Kendall Walton. I claim that the connection between aesthetics and literature is possible if a literary genre is transformed into an experience which is mostly subjective, and generates aesthetic values which, on the other hand, are more objective and universal. As Lamarque claims, literary critics seem to emphasize more the instrumental values of literature than its more purely intrinsic values. Moreover, they keep away as much as possible from value judgements of any kind. All this seems to separate literature from aesthetics. There are common factors, however, such as aesthetic pleasure and aesthetic vocabulary, which are used by both aestheticians and literary critics, proving that literature holds a strong place in contemporary aesthetics. Most aestheticians regard literature, especially poetry, as one of the arts. However, the most common issues that philosophers write about are the cognitive and ethical values of literature. Such debates lack the literary and hence the aesthetic aspect of literature. It is not so obvious that when philosophers write about literature, they are really engaged in aesthetics. This paper focuses on whether the concept of aesthetics of literature really connects aesthetics to literature and, more precisely, on which criteria make literary works suitable for aesthetic evaluation? The key to these questions lies in the aesthetic experience of pleasure.

A ccording to Peter Lamarque 'literary critics on the whole show a marked reluctance to acknowledge the relevance of aesthetics to literature'.[1] This statement implies that most literary critics do not accept or deem significant any connection, direct or indirect, between aesthetics and literature. There are several reasons for this situation as literary critics emphasize instrumental rather than intrinsic values and tend to keep a distance from any kind of value judgement, while not ascribing any importance given to emotions, to experiencing pleasure in the act of reading, and also to the aesthetic vocabulary expressing conceptions. Such factors are put aside by literary critics because of their minimal importance for criticism. On the other hand, when aestheticians write about literature and aesthetics, they often discuss topics which are also common among literary critics. So the question which arises here is: why do aestheticians accept the relation between literature and aesthetics whereas literary critics do not tend to do so? Most aestheticians, unlike critics, agree that literature has a place within aesthetics. However, they seldom emphasize the specific literary or aesthetic characteristics. This means that it is not so obvious that when aestheticians are dealing with literature, they are dealing also with aesthetics.

The relevance of aesthetics to literature is quite complex because it involves the organization of certain aesthetic features while distinguishing literary characteristics. In other art forms, such as painting and film-making, this process is not so complex as the connection is more evident in terms of perception or sensory or visual experience of the work of art. But what can be said about literature, whose only medium is words? This can be possible through the conception of appreciation. Appreciating literature for its own sake or as an art for different reasons means that it is possible to write about an aesthetics of literature. This principle is illustrated by Monroe C. Beardsley when he maintained that when we call an artwork a good one 'we must be ascribing some form of value to it, and that this must be a distinctive

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1   P. Lamarque, *The Opacity of Narrative* (London, 2014), 169.

and special form, properly labelled "aesthetic"'.[2] The emphasis here is on a special kind of values, which can lead to experiences of interest and desire. According to Beardsley, a literary work which has such an aesthetic value transmits an aesthetic character to experience, a character which is worth having. It is this quality which makes it valuable. Any literary genre can be transformed into such an experience which generates aesthetic values.

The Aesthetic Experience

Noël Carroll claims that the 'promotion of aesthetic experiences' means 'the production of beauty'.[3] He argues that audiences including literary readers, are often interested in aesthetic experiences and this is where literary criticism has failed – in providing a conceptual theory of aesthetics. He distinguishes between such an experience and its interpretation. But, in spite of this distinction, interpretative criticism and aesthetic criticism can coexist and generally they are often complementary.

The pleasurable experience a reader goes through when reading a literary work can provide an aesthetic value to the work. To establish the connection between aesthetics and literature is to take note of what goes on during this aesthetic experience of literature, that is to attend to the content of such an experience. Carroll called this process 'the deflationary account'[4] which focuses on the content of such experiences. This type of account describes what goes on during aesthetic experiences. Form is of utmost importance to all artworks but especially to narrative. Instead of the term 'form' Carroll makes use of the phrase 'design appreciation'[5] because when the reader of a literary work pays attention to the structure of it, if there is unity among the parts, then the reader has an aesthetic experience. It is this appreciation of the structure of the work which leads the reader to the said experience. Design appreciation

2   M.C. Beardsley, *Aesthetics: Problems in the Philosophy of Criticism*, 2nd edn. (Indianapolis, 1981), p. lix.
3   N. Carroll, *Beyond Aesthetics* (New York, 2001), 42.
4   Ibid., 58.
5   Ibid., 59.

does not include judgements based on taste. On the other hand, this activity engages the reader in the mechanisms of a literary work, that is how a particular work is structured. Such involvement in the design appreciation of a literary work is the aesthetic experience itself.

Besides the design appreciation, an aesthetic experience can result from the detection of the expressive qualities of a literary work. For instance the aesthetic experience of reading a poem can be that of anguish. This experience is based on sensuous cognition. Carroll goes a step further when he maintains that 'Design appreciation and quality detection are each disjunctively sufficient conditions for aesthetic experience. Moreover neither of these experiences requires the other.'[6] For example, the reader of a novel could search for the aesthetic qualities without analysing its structure or vice-versa. Nevertheless design appreciation and quality detection often come together because giving attention to the structure, often involves the role of the aesthetic qualities in a work. This could also work the other way round. However, whether together or independently, they are sufficient to make an experience aesthetic.

At this point I wish to refer to Kendall Walton's theory of aesthetic experience which contrasts with that of Carroll's. Walton emphasizes pleasure as the principle quality of aesthetic experience. His theory is two-fold: (i) the experience of pleasure which comes from the object itself, and (ii) the pleasure which is felt when positively evaluating the object. When talking about literature, the second option is more suitable because it illustrates a certain way of experiencing the literary work.[7] The emphasis here is on experience rather than on the effect of it which is secondary. Thus one can admire a poem if one observes certain characteristics that make it a good poem and, in the process, takes pleasure in it. Value judgements are not involved in this activity.

In this regard aesthetic pleasure is more directed to the artwork itself as opposed to the attitude towards it. It is an aesthetic experience of pleasure which rests upon appearances as they present themselves to the senses. But how does this work within the literary world? Setting aside obvious aesthetic features such as the print of the work

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6   Ibid., 60.
7   K. Walton, 'How Marvellous: Toward a Theory of Aesthetic Value'. *Journal of Aesthetics and Art Criticism*, 51 (1993), 510.

and the type of font chosen, the look and the texture of the paper, the aesthetic experience of a literary work which involves appearances, can include the stanzas or paragraphs, the sound of words, sentences, the appearance of the poem on paper, the rhythm of the lines, and so forth. Still, in spite of all these features, the one important aspect of the said experience which is found in most literary works is that of the imagination. Unfortunately this is often lacking in criticism. Besides the experience which is based on the senses, the imagination is crucial to most poems and narratives. Stecker maintains that 'Recognizing that the appearances interact with and contribute to the meaning presented to the imagination, I nevertheless call the latter the core aesthetic experience of literature.'[8] This experience consists of the contemplation of the conceptions the work presents to the imagination and this is done for the sake of pleasure arising from such an experience.

The conception of the aesthetic experience of a literary work as presented by Stecker seems to focus more on representational content than on the formal aspects such as the pattern of a novel's plot, the development of the story, how one event leads to another, changes in the points of view and how one image or symbol moves to another. All these seem to have been left out. However these are implied in Stecker's conception in order to understand and appreciate properly literary works.[9] As a rule, formal features can be regarded as the expression of content carrying several conceptions. Attention can be drawn to such features more than the concepts themselves. This is a pleasurable activity for its own sake. This aesthetic experience is similar to the enjoyment of the sound of words in a poem. But is this pleasurable experience sufficient to the work itself? The work is the object of these formal features which tend to be inadequate because they leave out too many characteristics of the work. An author can make use of several conceptions to display the work's formal features such as the use of concepts which convey certain sounds and rhythms. Without aesthetic experience one cannot distinguish aesthetic value.[10] In fact the aesthetic character of a literary work can include a number of properties that, although difficult to describe, are not difficult to experience. These may

8   R. Stecker, *Artworks – Definition, Meaning, Value* (Pennsylvania, 1997), 275.
9   Ibid., 278.
10   M.C. Beardsley, *Aesthetic Value in Literature* (Pennsylvania, 1981), 240.

include the sense of unity or lending attention to a particular aspect of the literary work. Therefore those properties that give the literary work its aesthetic value are basic.

Aesthetic Values

Several aestheticians have discussed and written about the aesthetic values of artworks or specifically of literary works. There have been many divergent ideas about these values but it seems that there is one fact that most aestheticians agree about – the fact that a literary work provides an experience to the reader and that this experience is created from different aesthetic values the work itself might contain. This is one clear reason how aesthetics can be connected to literature. Shakespeare's *The Taming of the Shrew* might clearly illustrate this conception. The aesthetic value of this comedy lies in the fact that by means of humorous scenes, Shakespeare is offering to his spectators the opportunity to experience pleasurable moments. Literary critics would emphasize features such as the characters, the setting, and the dialogue, while aestheticians would focus more on the experience of pleasure which becomes an aesthetic value. Although there is a difference on the emphasis of the literary critics and that of the aestheticians, the effect, that of humour, unites both perspectives.

The definition of aesthetic values is of great importance in the aesthetic debate about literature. Although Michael Slote regards such values as a tendency, he maintains that they are a 'dispositional property' in the reader.[11] He argues that there is no need to specify the conditions in which the reading is taking place, because the reading itself will provide an experience of the aesthetic features which define it. The aesthetic value of a novel includes certain characteristics such as unity and complexity which makes it valuable as a literary work. This implies that experiences of some duration can acquire an aesthetic value because the set of criteria found in artworks in general helps to form experiences and the combination of some of them results in an aesthetic experience.

This idea is further developed by Robert Stecker who believes that 'Aesthetic value is frequently used to refer to whatever is valuable

11   Id., *Aesthetics: Problems in the Philosophy of Criticism*, 2nd edn. (Indianapolis,1981), p. lx.

about art, that is, as a synonym of artistic value'.[12] But here the use of the term is too vague especially when the artistic or literary functions of these values are discussed. For this reason, I am going to limit this discussion to the conception of pleasure since this can be applied to all artworks and also to other objects such as natural objects. Aesthetic value is found in enjoyment. This implies that anyone who is enjoying reading a novel or a poem is going through a pleasurable experience which is not only caused by a literary work, but it is also directed to the same literary work. Thus one can claim that the literary work has an aesthetic value because it is enjoyable. The cause is the work itself, the effect is the aesthetic value of pleasure. 'The more an element seems to serve no ulterior end but to be an end in itself, the more aesthetic the effect.'[13] Therefore aesthetic value cannot ignore the experience nor the object itself because it consists of the pleasurable experience elicited from the literary works.

Although Stecker's theory implies an element of subjectivity, Horn insists that 'aesthetic values are "objective"'[14] because they depend on the human mind. There are two reasons for this. Firstly because they construct the link between the human mind and the aesthetic properties of literary works and secondly because they only become actual and more realistic within the human mind. Therefore the said values are objective because their valuableness does not depend on the opinion or taste of the individual. Blackburn's view presents the reading of literature at its best, that is reading literature in a better way by paying attention to several aspects of it. It 'is an activity that … has a good chance of telling us more about our own minds, and the lives they enable us to live'.[15]

Besides the 'emotion-centred' value, the conception of the aesthetic experience of a literary work increases gradually the work's aesthetic value. Understanding and interpreting the literary work, undoubtedly leads to aesthetic enjoyment. The ability to produce such an enjoyment creates the aesthetic value of the work. Aesthetic enjoyment can

12   Stecker, 270.
13   A. Horn, 'Aesthetic Values in Literature: The Dialectic of Permanence and Change', *Canadian Review of Comparative Literature* (1989), 7.
14   Stecker, 3.
15   S. Blackburn, 'Some Remarks about Value as a Work of Literature', *British Journal of Aesthetics*, 50:1 (2010), 88.

originate from a historically correct understanding of the work. Thus the work itself is responsible for such pleasure. On the other hand, the value of pleasure can be also derived from any plausible interpretation of the work. Such interpretations may not have been intended by the author and would not have necessarily been justified by the work's historical circumstances. Therefore any acceptable interpretation can produce aesthetic enjoyment. In both cases the responsibility of pleasure lies in the literary work.

Aesthetic Properties

To conceive an idea of anything means that it possesses certain specific properties. Lamarque refers to Sibley's view that since such properties are emergent, they go beyond a mere sensory perception (2014, 172).[16] He emphasizes the fact that not every person can discern such properties. A certain type of sensitivity is important to the application of aesthetic appreciation of these properties. This means that language alone is not enough for the appreciation of a literary work as this is not only a question of linguistic competence. As Lamarque points out, 'Literary appreciation is not a natural but rather a trained mode of discernment'.[17]

Sibley claims that there is no relation between the non-aesthetic and the aesthetic properties of an artwork. The presence of one does not mean the presence of the other. Non-aesthetic properties such as perceptual, structural or physical, do not imply that there should be aesthetic properties as well. In the case of literature, aesthetic properties cannot be elicited from textual features alone. Sibley's theory is opposed by Walton's argument in claiming that 'a work *seems* or *appears* to us to have certain aesthetic properties because we observe in it, or it appears to us to have certain non-aesthetic features.[18] This statement is clearly understood if we keep in mind Walton's definition of aesthetic properties. He describes them as characteristics existing within the works themselves just as much as non-aesthetic ones and these can be

16   Lamarque, 172.
17   Ibid., 173.
18   K. Walton, 'Categories of Art' in *Aesthetics and the Philosophy of Art*, edited by Peter Lamarque and Stein Haugom Olsen (Oxford, 2004), 214.

seen, heard and perceived. Bearing in mind the importance of such non-aesthetic properties that can be found in artworks and that aesthetic properties depend on these as well, Walton divides non-aesthetic properties in three types: the standard, the variable and the contra-standard. The first type places the work into a specific category, for example a literary work is categorized as Medieval, Romantic, Modern, and so forth. A variable feature is when it does not indicate whether the work falls within a certain category. This means that such a feature is irrelevant to categorize a work. The third type is the absence of a standard feature, the presence of which will disqualify the work from a specific category. Of course, this is not clear in all cases.[19]

All this suggests that the notion of perception is crucial to place a literary work into a category because it entails to perceive into a category, the basic qualities of a work. This process depends on the perception of particular features that are relative to different categories. Perception is a continuous state which may last for quite some time as opposed to recognition which involves shorter moments. Perception helps in the recognition of the relevant features of a literary work so that it will find its place into a suitable category. Perception of aesthetic properties goes much deeper than recognition as sometimes it may be very vague and its properties are relevant to categorize a work of art.

The reader of a literary work forms a conception of the text he is reading. This means that he/she thinks of it as having certain properties. This is more likely in certain forms of writing, as in the case of poetry, than in other forms. Such conceptions make possible aesthetic enjoyment. The reader enjoys thinking about a particular conception and literary works are commonly designed for such contemplation. 'Fictional literary works tend to present both sorts of conceptions … conceptions that are of something and conceptions that are not. A lyric poem that presents a conception of a fictional someone's grief may imply… a conception of grief. A novel whose fictional characters inhibit nineteenth-century Russia presents a conception of nineteenth-century Russia'.[20]

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19   Ibid., 144.
20   Stecker, 277.

Conclusion

I have by no means exhausted the subject of the relation between aesthetics and literature. However, I have argued that there exists a connection between the two disciplines, although not always direct. In this paper I have shown the importance of aesthetic value for the appreciation of a literary work. Today this type of value is endangered and tends to be more neglected by critical theorists and critics themselves. I believe that to speak of aesthetics of literature one must avoid emphasizing only intrinsic textual properties such as figurative language, imagery, metre, and so forth. The surface meaning should also not be given priority and, finally, the debate about literary aesthetics should never be reduced to mere perspectives of plot and character. These areas can be congenial to the literary critics but one has to admit that there exists an overlapping of critical views over aesthetic ones. As Lamarque states 'the aesthetic elements identified in literature are not simply well-crafted turns of phrase or expressive images … but rather emergent qualities that become salient when appropriate attention is directed to works'.[21] This statement implies that the study of aesthetics cannot be confused with other disciplines when applied to literature.

Developing this conception further, I would say that these go much deeper than meaning because, to appreciate literary works, one has to adopt specific techniques of reading which transform the texts into what David Davies called 'aesthetic symbols'.[22] This goes beyond the meaning of the literary text because literary aesthetics takes into account a much wider range of properties of the modes of expression such as the cultural resonance, the sound of the words and their associations and so forth. Aesthetically speaking, literary works are the vehicles for expressing content.

Most aestheticians have tackled the connection between literature and aesthetics from different points of view. However, I believe that there is one common factor that is found in most of the theories discussed by aestheticians. The common ground which illustrates the relation between literature and aesthetics is found in the distinction made by several aestheticians between textual features, more common

21   Lamarque,182.
22   D. Davies, *Aesthetics and Literature* (London, 2007), 15.

with literary critics, and aesthetic features.[23] Textual features are found in all texts as they are concerned with style, structure and factual content. These are the instrumental values mentioned by Lamarque.[24] (2014, 170). On the other hand the aesthetic features are capable to bind literature with aesthetics because such features change a text into a literary work and these may include experience, values and properties which I have discussed in this paper and which Lamarque called intrinsic values.[25]

It is quite tempting to reduce aesthetic properties to textual qualities because they are more familiar. But these can obstruct the successful appreciation of literature. One possible connection between literature and aesthetics is when literary works are treated as objects of aesthetic appraisal and such appraisal is promoted through them. This idea helps to resist the reduction of literature to something else such as ethics or pure philosophy. But if literature rests within the limits of the idea of literature as art and adheres to the conception of literary works as having distinctive characteristics in contrast with other art works, then an aesthetics of literature is possible.

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23   S.H. Olsen, *The End of Literary Theory* (Cambridge, 1987), 1.
24   Lamarque, 170.
25   Ibid., 170.

Further reading

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Historical Connections between the Foundlings in Naples and in Malta

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Abstract: In most European countries children were considered 'miniature adults': they lived in the streets and had lost their innocence. Parents rarely showed affection towards their children and, in most cases, they considered them a burden, especially if their birth contributed towards worse economic conditions. Since sex was quite open and people were unaware of natural contraceptive methods, many abandoned children were registered as '*ex parentibus ignotis*'. The hushed walls of the orphanages conceal terrible stories of newborns and children left in the Foundling Wheel. Each stone of those buildings has a story to narrate and, the revelation of these experiences, inevitably leads to pain. In 19th-century Naples, the Annunziata was considered the worst of these institutions, as stated in the novel *Ginevra o l'orfana della Nunziata* by Antonio Ranieri. The author reveals the cruelty of abandonment: the reasons that drove parents to abandon their children to the hope of reclaiming them back in the future; from the ceremony during which children were branded to the surname that stigmatized their existence and that of their future generations; from the description of the fiendish nannies to the cruelty of their actions. Even Francesco Mastriani in *La Medea di Porta Medina* and *I vermi* portrays the pain of these children. In Malta, the abandonment of unwanted children in the foundling wheel took place in the Ospedale di Santo Spirito in Rabat, then in the Sacra Infermeria in Valletta. While leafing through the old documents found in the National Archives of Santo Spirito at Rabat, we can observe obvious connections between the orphanages for foundlings in Malta and the Nunziata of Naples, as narrated by 19th-century Neapolitan authors. In the documents found in Malta attention is given to the nannies, their treatment of children, and the payments received for nursing and raising them. Today the foundling wheels are still there to remind us about these children and remain symbols of violence and solidarity, misery and compassion. They form part of that history we should never forget, an ineffaceable monument like the literary

masterpieces that have portrayed them, a warning so that such horrific experiences will never be repeated.

Questo studio approfondisce le affinità storiche tra i figli abbandonati nella Ruota a Napoli e a Malta. Nell'isola maltese è stato pubblicato poco sulla storia dell'infanzia nell'isola, malgrado i riferimenti in volumi storici e in opere specializzate, oltre alle tesi presentate all'Università di Malta,[1] e ai documenti custoditi negli Archivi di Santo Spirito. Invece, nel secondo Ottocento, in Italia, molti autori cercarono di rappresentare l'esposizione da un'ottica regionale per delineare la realtà dell'abbandono nel contesto postunitario. Questi gettavano luce sulla società italiana perché ai tempi dell'unificazione, c'erano circa 150.000 bambini nei brefotrofi o assistiti dalle amministrazioni locali e 30.000–40.000 neonati abbandonati ogni anno, spesso provenienti dalle classi meno agiate. Le ricerche confermano che anche alcuni maltesi abbandonavano i figli e li consideravano una seccatura, specialmente se la loro nascita aggravava la condizione economica della famiglia.[2]

Nel caso dell'Italia, molti studiosi fanno risalire la Ruota al secolo XIV, all'Ospedale di Santo Spirito a Roma,[3] in una porta girevole chiamata 'ruota', 'torno', 'curla', o 'buca', dove si lasciavano i bimbi senza essere visti:

I trovatelli vengono ricoverati col mezzo di un recipiente che gira intorno a sé col mezzo di un perno, chiamato ruota, esposto sulla pubblica strada; quale nel girare fa suonare un campanello, e tanto di giorno, che di notte vengono accolti maschi e femmine.[4]

1   C. Cassar, *Society, Culture and Identity in Early Modern Malta* (Malta, 2000), XXXV. Tra le opere principali dedicate all'infanzia a Malta vanno menzionate: F. Ciappara, *Society and the Inquisition in Early Modern Malta* (Malta, 2001), C. Cassar, *Daughters of Eve: Women, Gender Roles and the Impact of the Council of Trent in Catholic Malta* (Malta, 2002), e J. Cassar Pullicino, *Studies in Maltese Folklore*, (Malta, 1992).

2   R. Attard – R. Azzopardi, *Daily Life in Eighteenth-Century Malta* (Malta, 2011), 102.

3   A. Saponaro, *Figli di nessuno. Storia dell'abbandono causato da misere condizioni di vita, generali e locali* (Faso di Brindisi, 1994), 33.

4   S. Onger, *L'infanzia negata. Storia dell'assistenza agli abbandonati e indigenti a Brescia nell'Ottocento* (Brescia, 1985), 23.

Dietro la Ruota c'erano una levatrice e un'infermiera che esaminavano il bimbo, mettendogli un cordone al collo per garantirgli un'identità personale. Spesso il piccolo portava contrassegni particolari: santini, medagliette, bottoni, nastri colorati, indicando la speranza dei genitori di riprenderselo un giorno. Rimanevano dubbi sull'identificazione a causa di un possibile errore di registrazione; l'unica certezza era il marchio di 'figli della colpa e della miseria'.[5] A Napoli questi esposti venivano chiamati 'figli della Madonna', a Ostuni 'figli di Cristo' e 'gettatielli', altri li delineavano figli dello Stato o della colpa, 'figli del buio',[6] 'figli di Adamo ed Eva',[7] marchiati con N.N. (nescio nomen) per paternità e maternità. Nei registri si scriveva '*filius matris ignotae*', cioè 'figlio di madre ignota'.

Ogni essere umano assume il cognome che va di padre in figlio, ma gli esposti ricevevano quello di chi li trovava o del prete che li battezzava. I nomi dati erano di diversi tipi: pietosi (Diotallevi, Angioletto), realistici (Esposito, Maltrovato), riferendosi al comportamento della madre (Amordeluso, Lascialfare); alcuni erano virtù (Umiltà, Prudenza), altri dispregiativi (Troia, Porcu);[8] si usava anche un cognome come plurale del nome (Amato Amati o Zeffira Zeffiri) oppure estendevano il nome (Anna Annetti o Giuseppe Giuseppini), o usavano la prima parte del nome (Gabriella Gabi o Serafino Serafi) o la seconda parte del nome (Agnese Nesi o Martino Tini).[9] Fino a metà Ottocento, a Roma e Milano si dava il cognome Colombo, a Firenze Innocenti, a Roma Proietti, a Lucca Lucchese, a Pavia Giorgini,[10] mentre a Genova e Napoli s'imponeva il cognome Esposito. Ne *I Vermi*, Francesco Mastriani fa un'invettiva contro questo cognome:

Questo cognome è un suggello d'infamia marcato su la intera vita di un uomo; è una punizione inflittagli per colpa de' suoi genitori .... E quest'uomo dovrà arrossire ogni volta che appone il suo nome a' piè di una carta, ogni volta che sentesi chiamare dove che sia .... Allorchè essi arrivano a comprendere

5   Ibid., 150.
6   Saponaro, 86.
7   S. Andretta, *Infanzia sola e letteratura tra XVIII e XIX secolo* (Firenze, 2005), 29.
8   G. Di Bello, *Senza nome né famiglia. I bambini abbandonati nell'Ottocento* (Firenze, 1989), p. xii.
9   Ibid., 88.
10   Ibid., 96 nota 4.

di qual marchio la società ha fatto loro dono, sono presi da un indefinito scoraggiamento; disperano di poter mai cancellare, colla moralità delle proprie azioni, l'onta congiunta al loro cognome.[11]

Per quanto riguarda gli esposti nell'isola di Malta, la ricerca conduce inevitabilmente agli archivi nazionali di Santo Spirito a Rabat, primo ospedale dell'isola, già in funzione nel 1374. A Malta, l'infanzia acquistò importanza quando gli ospedali iniziarono ad accogliere, oltre ai malati, anche gli orfani e gli esposti. A Santo Spirito, la registrazione dei primi esposti risale al 1518 quando viene menzionato il pagamento a due balie,[12] la moglie di Matro Bartholomeo Chilia pagata 4 tari 10 grani al mese poi 3 tari quando non allattava più, e la moglie di Matheo Use pagata 5 tari al mese 'per nutritari la pichotta'.[13] La loro crescita allo Spedale richiedeva spese del tipo: 'infaxatura dilu pichottu', 'tila di lana per fari panniczi', 'fustaina per li sacchetti'.[14] I neonati, battezzati e registrati come 'filii' o 'filiae Hospitalis',[15] venivano allattati da due balie comuni o dal latte di capra finché passavano alle nutrici forastiere che ricevevano uno scudo ogni pima domenica del mese. Le migliori balie ('*l-imreddgħa*') erano ritenute quelle di Qormi, da cui il detto '*Imreddgħa Qormija, u mhux Żabbarija*'.[16]

Anche in Italia, la scelta della balia era fondamentale perché il bambino crescesse forte e sano e alcuni documenti della prima metà dell'Ottocento danno indicazioni sulle loro prestazioni fisiche:

[la buona nutrice] sia perfettamente sana del corpo: giovane da venticinque a trent'anni, ... di buon colore tra 'l rosso, e bruno, con carni non flaccide; non troppo grassa, né macilenta; mezzane di grossezza le sue mammelle tra dure e molli, con capezzoli né troppo piccoli o ritirati in dentro, né troppo grossi o sporgenti. Non sia di pelo rosso o biondo, come troppo impressionabile da passioni, offra bell'aspetto, non losca, non balbuziente, non fetente di bocca, o con denti cariosi.[17]

11 F. Mastriani, *I vermi. Le classi pericolose in Napoli* (1863), vol. I, a c. di L. Torre (Napoli, 1994), 152–3.
12 C. Savona-Ventura, *Child Wellbeing Services in the Maltese Islands. Report 2009* (Malta, 2009), 3.
13 S. Fiorini, *Santo Spirito Hospital at Rabat, Malta. The Early Years to 1575* (Malta, 1989), 35–6.
14 Ibid., 36.
15 A. Critien, 'The Foundlings under the Order and after', *Scientia*, XV/1(1949), 7, nota 9.
16 J. Cassar Pullicino, *Studies in Maltese Folklore* (Malta, 1992), 238.
17 F. Della Peruta, *Società e classi popolari nell'Italia dell'Ottocento* (Siracusa, 1986), 99.

Un altro testo, pubblicato a Milano nel 1836, descrive queste caratteristiche fisiche:

la nutrice sana discretamente grassa, robusta, senza manifeste deformità. La testa sarà coperta di capelli bruni, anziché biondi: quelle poi la cui capigliatura è rossa dovranno essere rigettate costantemente per la loro traspirazione che è molto fetente .... Le mammelle dovranno essere collocate su di un petto ben conformato, di un volume ordinario, di figura imbutiforme, gonfie del latte, un po' volte all'infuori, separate tra loro da un ben marcato solco.[18]

Spesso molte balie campagnole non allattavano i piccoli affidatigli e ricorrevano a cibi come pane grattugiato o latte e farina di mais arrivando addirittura a dargli polenta e merluzzo.[19]

Sia a Malta che nell'Annunziata di Napoli si cercava di appuntare del piombo con un numero attorno al collo dell'esposto. Nei registri si scriveva il numero di identificazione del trovatello, la data dell'abbandono, l'età attribuitagli e il sesso, deformità o segni, e la balia che l'aveva allattato. In *Ginevra o l'orfana della Nunziata*[20] Antonio Ranieri ritrae le condizioni pietose dei 'figli di Ave Gratia Plena'[21] buttati nella Ruota napoletana anche fanciulli dopo averli unti per farli scivolare facilmente, un processo in cui molti si rompevano un braccio o una gamba. Ranieri descrive la Nunziata come un luogo buio e tenebroso, più idoneo alle bestie che agli umani, come accentuato dalla torchiatura, generalmente riservata agli animali:

un sacerdote di larga e panciuta corporatura ed alquanto losco degli occhi, era seduto sopra una seggia di appoggio e gli era dinnanzi una gran tavola. ... Intorno erano molte monache ed altre donne con molti bambini in braccio ... per cenni del prete ognuna di quelle donne accostava successivamente un bambino al torchio, quell'uomo gli avvolgeva la stringa al collo, che ad un tratto parea che volesse impiccarlo per la gola ... ed eccoti il bambino, com'essi dicevano, marchiato.[22]

18   Ibid.
19   F. Della Peruta, 'Infanzia e famiglia', *Studi Storici*, XX, 3 (1979), 487, e F. Della Peruta, *'*Sanità pubblica e legislazione sanitaria dall'Unità a Crispi', *Studi Storici*, XXI/4 (1980), 720.
20   Il romanzo, pubblicato nel 1839 (malgrado fosse stato scritto nel 1836–37), raggiunse la notorietà nel 1862 quando il Parlamento dibatteva la questione meridionale. L'orfanotrofio era conosciuto come 'Casa della Nunziata' perché ubicato vicino alla chiesa dell'Annunziata.
21   Il titolo veniva dato ai gettatelli per l'iscrizione sulla Santa Casa di Napoli e per lo stemma 'AGP' ovvero 'Ave Gratia Plena'.
22   A. Ranieri, *Ginevra o l'orfana della Nunziata*, a c. di N. D'Antuono (Bologna, 2005), 27.

Poi i piccini venivano affidati alle balie descritte in uno dei brani più tristi del romanzo:

Giorno e notte si udiva rimbombare nelle immense volte della sala una specie di rauco muggito .... Queste erano le balie che cullavano i bambini, dimenando con tanta furia le culle in su per gli arcioni, che alla fine quei miserabili, storcendo gli occhi e tutti allividendo nel viso, erano compresi di una sorta di apoplessia al cervello che le balie interpretavano per sonno.[23]

Le seguenti foto presentano la vita delle balie e degli esposti nella realtà della Nunziata:[24]

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23   Ibid., 30.
24   P. Giordano (a c. di), *La rota degli esposti* (Napoli, 1999).

Nel caso di Malta, visto che i Cavalieri si stabilirono nella zona del porto, vennero istituiti nuovi ospedali prima a Vittoriosa, poi a Valletta. Qui i figli indesiderati, chiamati esposti o 'bastardi' venivano abbandonati nel Palazzo dello Spedale, noto come la Sacra Infermeria, costruito nel 1574 dal Gran Maestro La Cassière. Nella parte posteriore dell'edificio c'era la Ruota, fatta in modo tale che non si vedeva chi vi depositava il bimbo.[25] Nel 1786, il filantropo inglese John Howard adoperò parole encomiabili per chi tutelava gli esposti quando vide che i bambini erano sani e felici. Non si può dire lo stesso del brefotrofio napoletano perché, come spiega Ginevra, vi moriva l'85 o il 90% degli esposti. Dal 1779, le autorità maltesi iniziarono ad accettare anche figli legittimi abbandonati da madri che non avevano latte, il che causò un balzo nel numero di gettatelli e nelle spese tanto che le autorità dell'ospedale furono costretti ad accettare solo esposti illegittimi.[26] Molte famiglie vivevano in uno stato di miseria così grande che non volevano riprendersi i figli, nemmeno quando raggiungevano la maggior età. Una lettera del 9 agosto 1858 rivela che i due esposti Giuseppe Moretti e Margarita Darmanin avevano raggiunto l'età di uscire dallo Spedale ma i loro parenti non li potevano tenere:[27]

Al contrario di quanto narrato sulla Nunziata di Napoli ('tremila bambini in circa che sono gettati ogni anno nella buca, duemila e cinquecento muoiono, la più parte di fame'),[28] nello spedale maltese il cibo non mancava, dalla carne alle uova, dal latte allo zucchero, dal pane alla carne di montone. Se mancavano le balie da latte, ai gettatelli si dava latte di capra e di asino, talvolta munto nelle sale ospedaliere. Come prova che i bambini erano trattati molto bene, vorrei citare una lettera di protesta trovata negli Archivi Nazionali dove si richiede che il cibo fosse all'altezza dei bambini:

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25   Tra 1787 1788, 212 bambini furono gettati nella Ruota. Cfr. P. Cassar, *The Holy Infirmary of the Knights of St. John. 'La Sacra Infermeria'* (Malta, 1994), 12.

26   Ibid., 63.

27   'Letters from Orphan Asylum to Inspector of Charitable Institutions (1852–1863)', Charitable Institutions 1816–1956, Archivi Nazionali, Santo Spirito, Rabat.

28   Ranieri, 30–1.

Il Comitato Medico nominato per esaminare la presente dieta degli Orfani, avendo esaminato la Suppa, ed altri articoli, ha dichiarato, che detto pane fosse di seconda qualità, di colore bruno, e di cattivo odore. Quindi abbiamo creduto nostro dovere di farvene rapporto per nostro discarico. [29]

29   'Letters from Orphan Asylum to Inspector of Charitable Institutions (1852–1863)'.

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La stessa cura si osservava nella Sacra Infermeria di Vittoriosa, grazie a due balie chiamate 'ospitaliere', che tenevano i bimbi al caldo. A Gozo, dal 1787, gli esposti si depositavano nella Ruota dell'ospedale di San Giuliano gestito dalla Chiesa. Chi adottava un esposto poteva ricevere aiuti finanziari dallo Stato, ma era fondamentale dargli un'educazione sociale e cristiana adeguata per agevolare il suo inserimento nella comunità.

Malta era una terra di contraddizioni: i nobili e i ricchi mangiavano le 'acque gelate' della Sicilia, la cioccolata dal Sud America, e i maccheroni napoletani mentre i poveri gridavano '*nix mangari*' e chiedevano il cibo sulle scalinate del porto.[30] Nonostante l'isola fosse dominata da un ordine religioso che condannava qualsiasi forma di lussuria, i gran maestri, i vescovi e gli inquisitori avevano numerose donne e parecchi figli illegittimi.[31] Le strade della Valletta brulicavano di bambini e animali in un caos totale, come rivela Cavaliero:

I have heard screams of the most frightful kind, as of children run over by a cart, and running to the window. I have seen children in a parlour opposite to me ... screaming in horrid fiendishness for fun. But it goes through everything, their street cries, their priests, their advocates, their very pigs yell rather than squeak, or both together ... pigs were allowed to roam the streets quite freely in the poorer parts of the town, acting as a dustbin service ....[32]

Lo sfondo è molto simile a quello descritto nell'opera di Matilde Serao o Mastriani in una Napoli dove prevaleva la sporcizia e l'incuria; anche a Malta i bambini correvano come selvaggi in compagnia degli animali. I costumi sessuali erano molto liberi contribuendo ad aumentare le malattie trasmesse sessualmente. L'isola era condannata nei testi dei viaggiatori come Sodoma e Gomorra, il che viene confermato nel diario di un veneziano che descrisse i Maltesi del Settecento in maniera poco gentile:

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30   Attard – Azzopardi, 7.
31   Ibid.
32   R. Cavaliero, *The Last of the Crusaders. The Knights of St. John and Malta in the Eighteenth Century* (Londra, 1960), 75.

La superbia, li concubinati, gl'adulteri, le sodomie, li stocchiu, le usure, le querele, li duelli, il gioco, l'ebreità sono cose molto ben ordinarie; li tenersi donne a luoco e fuoco; l'allevera bastardi, lasciando loro il cognome e gloriarsene cosa commune.[33]

L'età di sette anni segnava una svolta: i maschi venivano trasferiti a Forte Ricasoli per ricevere un addestramento militare o lavorare, e fu istituita una commissione per verificare che questi ragazzi venissero cresciuti bene. Invece a Napoli, i maschi che fino a sette anni non trovavano famiglia, venivano rinchiusi nel 'serraglio'[34] dove pativano violenze terribili. Anche per le femmine l'età di sette anni era cruciale perché venivano trasferite al conservatorio del Gran Maestro a Floriana finché raggiungevano l'età per essere date in matrimonio. Qui imparavano mestieri da donna anche se la maggioranza moriva prima d'aver raggiunto quest'età. La seguente tabella mostra che le lezioni si organizzavano secondo la loro specializzazione di cuoche, lavandaie, stiratrici, cucitrici, o, se erano più inclini ai lavori fini:[35]

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33   G. Capello, *Descrittione di Malta, anno 1716. A Venetian Account*, a c. di V. Mallia-Milanes (Malta, 1988), 95.

34   La parola 'serraglio', dal latino *seràculum*, trasformata poi in *serallium*, significa un luogo murato dove si tengono rinchiuse le fiere, il che conferma che i bimbi venivano trattati come animali.

35   'Letters from Orphan Asylum to Inspector of Charitable Institutions (1852–1863)'.

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Anche per le esposte napoletane, il traguardo dei sette anni era determinante per distinguere le privilegiate dalle reiette:

giunte ai sette anni sono condotte, come tante anime semplicette, innanzi al supremo moderatore dell'ospizio, che suol essere, il più, qualche sterminato baccalare di nobiltà. Il quale, novello Minosse, consideratele un istante, secondo che gli vanno o no a sangue, le manda .. chi nel primo ordine delle smisurate sale fra le elette, che per instituto non possono oltrepassare le cento, e chi nei covili fra le reprobe, che non sono mai più di dugento cinquanta.[36]

Le fortunate imparavano a leggere e scrivere, tessevano e ricamavano, mangiavano come esseri umani, le altre venivano sfruttate e abusate.

Raggiunta l'età matrimoniale, a Malta si dava la piccola dote di 25 scudi alle esposte che accettavano di sposarsi nella festa di S. Paolo.[37] Similmente a Napoli, secondo il romanzo di Mastriani, *La Medea di Porta Medina*, la festa della Nunziata serviva per dare le esposte in moglie a quegli uomini che venivano a scrutinarle:

Era un giorno di parata; e la Santa Casa facea sparire tutto il brutto ed il sudicio per fare bella mostra di sé al rispettabile pubblico che era ammesso in quel dì a visitare i lunghi e tetri stanzi del Pio Luogo, dei cui dolorosi misteri narrò bene ed a lungo il Ranieri.[38]

Colpisce la sottile ironia di Mastriani quando asserisce che questo luogo di Chiesa, gestito da chi predica amore e comprensione, era un luogo di corruzione in cui le Figlie della Madonna pativano orrori e venivano trattate come 'derelitte figliuole del peccato'.[39]

Uno tra i primi a chiedere la soppressione della Ruota in Italia fu l'economista Francesco Ferrara nel 1838, seguito dall'economista Gerolamo Boccardo e il pedagogo Giuseppe Sacchi. La prima provincia ad abolirla fu Ferrara nel 1867, seguita da Milano e Como nel 1868, poi da Torino, Novara, Roma, Napoli, e Genova; le città meridionali erano più restie all'abolizione dei 'torni' tanto che nel 1894 c'erano

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36   Ranieri, 67–8.
37   C. Savona-Ventura, 'The Maltese 'Welfare State' during the Hospitaller Period', in AA.VV., *La storia della medicina come ponte culturale nel bacino del Mediterraneo. Atti del convegno internazionale di studi, Malta, 19–20 ottobre, 2001* (Roma, 2002), 40.
38   F. Mastriani, *La Medea di Porta Medina* (Napoli, 1977), 13.
39   Ibid., 14.

416 comuni che accettavano i bimbi nella Ruota, e la legge ufficiale fu sancita solo nel 1923. Un altro disegno di legge *Sull'infanzia abbandonata e maltrattata* venne presentato dal deputato Tullio Minelli nel 1892 in cui, oltre all'abolizione delle Ruote, si voleva introdurre una commissione protettrice dell'infanzia che, secondo l'Articolo 4, avrebbe avuto l'obbligo:

1° di sorvegliare tutti i trovatelli affidati nel proprio territorio ...;

2° di denunziare all'autorità giudiziaria i casi di maltrattamenti, percosse, sevizie, lesioni, reclusioni continuate ed abusi ...;

3° di provvedere all'assistenza, al collocamento temporaneo o definitivo dei minorenni figli di prostitute e di detenuti e di tutti i fanciulli che fossero stati abbandonati dai genitori o maltrattati da chi li [tenesse] in custodia;

4° di provvedere perché gli abbandonati da inviarsi ai brefotrofi [fossero] temporaneamente assistiti e custoditi e affidati a persone oneste e con tutte le precauzioni atte a conservarli in vita. [40]

A Malta, il secolo XIX vide miglioramenti in campo scientifico tanto che, nel 1870, si tentò di migliorare le condizioni sanitarie specialmente le nascite e nel 1899 fu redatto un documento per regolamentare il lavoro delle levatrici. La Ruota fu abolita nel 1798 da Napoleone e durante la dominazione inglese la Sacra Infermeria si trasformò in ospedale militare. Non essendoci un posto dove depositare i figli indesiderati, molti li lasciavano per strada o in chiesa. Nonostante tante belle parole, la Commissione inglese fu scioccata quando scoprì che tra il 1833 e il 1836, quattro su ogni cinque esposti morivano, perché mancavano i fondi e ogni balia doveva allattare tre o quattro bimbi.[41]

Il governo britannico si assunse il compito della tutela degli esposti che nel 1804 furono trasferiti dalla Casa delle Alunne all'Ospizio di Floriana e nel 1833 alla Casa d'Industria, anch'essa a Floriana per essere poi trasferiti nuovamente all'Orphan Asylum nel Magdalene Asylum della Valletta.[42] Il luogo accoglieva cento ragazzi di entrambi i sessi fino all'età di 18 anni e gli si davano dei vestiti e i soldi guadagnati durante

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40   M. Gorni – L. Pellegrini, *Un problema di storia sociale. L'infanzia abbandonata in Italia nel secolo 19,* (Firenze, 1974), 81.

41   Critien, 15.

42   Savona-Ventura, *Child Wellbeing Services*, 4.

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l'apprendistato. Dal 1852, gli esposti furono trasferiti alla Valletta dove gli si garantiva una formazione tecnica e la possibilità di ricevere la stessa educazione dei coetanei nelle scuole statali. Iniziò una coscienza infantile quando il primo Codice Criminale promulgato dagli Inglesi (10/6/1854) stabilì che chi abbandonava i figli rischiava fino a un anno di galera,[43] e fu redatta anche l'abolizione del lavoro minorile.[44]

Ancora oggi quei luoghi di abbandono sintetizzano vicende dolorose di violenza e solidarietà, miseria e pietà. Rimangono un pezzo di storia che non va dimenticato, un monumento indelebile come le pagine letterarie di chi le ha rappresentate, un ammonimento affinché quell'esperienza di orrore non si ripeta.

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43   Art. 246-8 in Cap. 9 del Codice Criminale, in http://justiceservices.gov.mt Download
      Document. aspx?app=lom&itemid=8574&l=1, 97–102.
44   Art. 248A, 248DB, 248E in ibid.

Striving for Excellence: The Challenge of Educating Highly Able/Gifted Students

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Abstract: Some students are more academically able than others. Some teachers believe that the academically able/gifted students can easily make it on their own. More often, emphasis in the literature is directed at how educators can help the students of lower academic ability, rather than pointing towards methods of teaching which can be used to motivate able learners. Research has indeed shown the existence of gifted underachievers. This paper looks briefly into a study which was conducted with the aim of establishing who the gifted students are and what qualitative differences exist between the gifted and their average same-age peers studying physics. The need to give a different but not elitist education to the gifted is highlighted in order to give an opportunity to gifted learners to reach their full potential. Recommendations will be put forward to emphasize the importance of improving awareness of the special needs of the gifted, promoting ways to best cater for these students at school and at home.

Keywords: highly able/gifted, cognitive development, high intellectual ability

Good educators know that all students, whatever their age and ability, need their fair share of individual attention. It is not only the weak but also the gifted students who need to feel at ease, content, and fulfilled within their learning environment. In the classroom, many a teacher recognizes that some students are more academically able than others but it is easy to fall into the trap of accepting that the academically highly able/gifted students can easily make it on their own. Such a situation may lead to unmotivated, bored, and underachieving students who could have performed so much better had the right learning environment been made available to them.

The nature of giftedness

We look with awe at people who strive for perfection, doing their best to do what they do for the love of just getting a job well done. We all have our limitations but people who are highly able tend to test themselves to their limit and their achievements may strike all the rest as incredible. Having said this, we all should know that the best performance is achieved by people who really work hard for it. Nothing comes from nothing. But then, how can giftedness be defined?

Early work on giftedness

The study of giftedness stretches back into the nineteenth century. In England, Sir Francis Galton, a renowned English scientist, studied the origins and development of genius. Later studies in France by A. Binet and T. Simon helped in the development of a standardized scale providing a score called 'mental age'.[1] In the USA, L.M. Terman began to work on the refinement of the 'mental age' scale. In 1916 he published the first form of the Stanford Revision of the Binet-Simon Scale which gave the Intelligent Quotient (IQ) as the score. This instrument was assumed to be a measure of innate intelligence.[2] Indeed, Terman's work led to the outburst of the 'myth' that the able individual has superior qualities overall … and this perhaps may be the reason why people, including some educators today, still think that to provide the right educational environment for the gifted is somewhat elitist.

Broadening the view of giftedness

As more studies were conducted, researchers realized that judging a child as mentally superior should not be based solely upon an IQ. It became evident that intelligence was a far more complex matter than was generally believed. In the early sixties, particularly under the influence of Jerome Bruner's theories about knowledge and learning, the appropriateness of the curriculum for the conceptual level of individual gifted children was also considered. The domination of IQ was seriously challenged and more interest was sparked in creativity

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1   J.R. Whitmore, *Giftedness, Conflict and Underachievement* (Boston, 1980).
2   H. Cravens, 'A scientific project locked in time', *American Psychologist*, Vol. 47, No. 2 (1992), 183.

and the assessment of creative thinking. Personality and behaviour characteristics of the gifted were given more importance.[3] It became apparent that there was no such thing as a typical gifted child. Harry Passow supports this when saying: 'the gifted … are clearly not a homogeneous group'.[4]

Defining giftedness — the needs of the gifted

As the interest in the gifted increased, the awareness that the gifted do have special needs also increased. Eric Ogilvie (1973) suggested that 'to be gifted is to be outstanding in general or specific abilities in a relatively broad or narrow field of endeavour. In his broad definition, he suggests that six areas could be considered: physical talent, mechanical ingenuity, visual and performing abilities, outstanding leadership and social awareness, creativity and high intelligence.'[5]

In 1983, Howard Gardner classified human intellectual activity into seven components covering a wide variety of intelligence. Gardner's original seven frames of mind are:

- linguistic,
- musical,
- spatial,
- logico-mathematical,
- body kinaesthetic,
- insightful skills for analysing ourselves,
- insightful skills for analysing others.[6]

According to Gardner, an individual's abilities can be high in one component and low in others, high in all or many, and so on.

Ogilvie also referred to the needs of the gifted, namely:

- to have contact with average peers,
- to have contact with children of comparable levels of ability,
- to be stretched and challenged even to the point of experiencing failure and humbling experiences,
- to be guided rather than directed through a more academic approach to a greater depth of treatment,

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3   Whitmore.
4   D. George, *The Challenge of the Able Child* (Great Britain, 1995).
5   Quoted in ibid., 8.
6   J.W. Santrock, *Adolescence: An Introduction*, 5th edn. (Dallas, 1993), 164; D. Montgomery, *Educating the Able* (London and New York, 1996), 19.

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- to avoid being set apart but have a chance to set self apart on occasions,
- to pass rapidly through elementary stages and use advanced resources,
- to pursue own lines of research,
- to be exposed to some forms of counselling – and for their parents to be so too,
- to be treated like other children,
- to have contact with teachers gifted in similar fields,
- to have abundant opportunity and encouragement to exercise specific talents.[7]

Indeed, much of the same is emphasized even today![8]

Modern conceptions of giftedness

Giftedness is today seen as the interaction of intellectual and non-intellectual factors. Probably the most well-known attempt to redefine giftedness is credited to Joseph Renzulli who left his mark on giftedness with his three ring conception of giftedness (see Fig. 1).[9] 'It is the interaction among the three clusters that research has shown to be the necessary ingredient for creative-productive accomplishment.'[10]

Fig. 1: Graphic representation of the definition of giftedness[11]

7   Montgomery, p. xi.
8   E. Winner, 'Ellen Winner on Gifted Children', *ParentEdge* (May–June 2012).
9   N. Colangelo and B.A. Kerr, 'Extreme academic talent: Profiles of perfect scorers', *Journal of Educational Psychology*, Vol. 82, No. 3 (1990), 404.
10 J.S. Renzulli, 'The three-ring conception of giftedness: a developmental model for creative productivity', in R.J. Sternberg and J.E. Davidson (eds.), *Conceptions of Giftedness* (UK, USA, and Australia, 1986), 65.
11 Ibid., 74.

By task commitment, Renzulli refers to 'a focussed form of motivation' which may be described more exactly using terms like 'perseverance, endurance, hard work, dedicated practice, and self-confidence'. The hound's-tooth background in Fig. 1 refers to factors grouped under 'Personality' and 'Environment' that can further help achieve giftedness.

In Fig. 2, the original Renzulli model is supplemented with a frame illustrating the view that giftedness is not just defined by what is within the rings. A social and cultural dimension was included.[12]
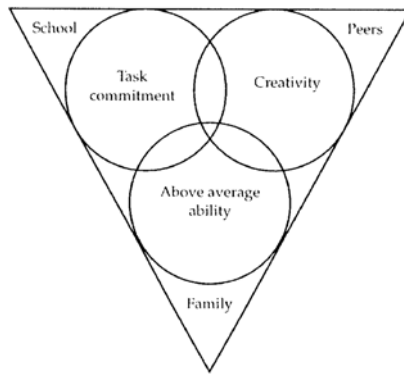
Fig. 2: A multifactorial model of giftedness[13]

Giftedness is not just good performance on an IQ test. Outstanding performance is certainly the point of departure but the role of other intra-individual characteristics like self-confidence, intrinsic motivation, and dedicated practice, can be seen as pre-conditions for such performance.

A study conducted with highly able/gifted science students

While it is possible to describe the variety of performance skills in which the gifted child excels, yet, it is difficult to determine *how* or *why*

12 R. J. Mönks and H. W. van Boxtel, 'Gifted adolescents: a developmental perspective' (1985), in Montgomery, 13.
13 R. J. Mönks, 'Ein interaktives Modell der Hochbegabung' (1992), 194, quoted in Montgomery, 13.

a child can perform these skills more competently than other children of different abilities. Very few studies have examined the differences in cognitive processing between individuals. A relatively recent study[14] has, however, focussed on brain activity of various children and suggested that gifted children distribute the cognitive resources essential to cope with hypothesis generation more efficiently. Even so, the study talks of a specific physical process in the brain and not about some general mode of development of intelligence.

My study focused on high intellectual ability. The nature of high ability, as well as the mode of development of intelligence were key issues being researched. The model constructed by Jean Piaget in his Theory of Cognitive Development[15] was deemed appropriate for such work. Through the use of some Piagetian tests of development, this study sought to demonstrate whether students showing good performance in a specific area of study, also have a good measure of logical thought.

The aims of the study

The primary aim of this study was to establish whether there exists a difference in the level of cognitive development as exhibited by highly able/gifted science students (mean chronological age 14 years 4½ months) when compared to their peers of the same chronological age. Furthermore, it was deemed interesting to compare the performance of these gifted students to older science students, both highly able and average ones (mean chronological age 17 years 3¾ months).

Identifying the subjects

An important step undertaken in this study was to identify the subjects. 'For western culture … there is strong evidence that gifted students have entered formal operations by ages 12 to 13.'[16] It was decided, therefore, that 13- to 14-year-olds would be suitable candidates to work with.

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14 J. Seung-Hyunet *et al*., 'Differences in brain information transmission between gifted and normal children during scientific hypothesis generation', *Brain and Cognition*, Vol. 62 (2006), 191.

15 J.B. Shields, *The Gifted Child* (London, 1968), 62.

16 K.R. Carter and J.E. Ormrod, 'Acquisition of formal operations by intellectually gifted children', *Gifted Child Quarterly*, Vol. 26, No. 3 (1982); J. Lynch, 'Fast-paced science for the academically talented: Issues of age and competence', *Science Education*, Vol. 74, No. 6 (1990), 590.

Students of this age in Malta are normally in their third year of their secondary education. The chosen students (girls and boys) had taken a general science class during their first two years of secondary school and in the third year they all studied Physics. Considering students' performance on school tests through the third year and administering a short science/physics test was deemed suitable as a measure of discriminating the best from the average students studying Physics at this level.

The test was constructed keeping in mind the following points:

- qualities of scientists that help in identifying gifted young scientists, emphasizing close observation;[17]
- testing procedures used in the Brentwood experiment with gifted students in science focussing mainly on the 'child's ability to reason/grasp the essence of a problem and to observe';[18]
- scoring well beyond one's chronological age on a difficult test implies not just earlier development, but also higher levels of ability that 'presage long range, lasting differences in ultimate ability'.[19]

A short science test including 3 questions was prepared by the author. Question 1 was an easy question based on material which students had covered during their Physics class that year. This question aimed at putting the students at ease. Questions 2 and 3 were the crucial test questions. Question 2 required the understanding of the concept of refraction of light through a lens – a topic that had also been covered by these students. This question required the extension of ideas related to the focal point and how rays come to a focus within the focal plane of a convex lens, even when the oncoming rays are not parallel to the principal axis. Question 3 required careful observation of a given diagram showing an apparatus used to study how gas pressure changes with temperature. Students were asked to name any apparatus which was missing on the diagram and to explain why a specific piece of apparatus was important to use during the experiment. Questions 2 and 3 were questions which required a higher ability to answer correctly than that expected from a third-year student.

17   George.
18   S.G. Fisher, *Work with gifted children in science*, quoted in S.A. Bridges *Gifted Children and the Brentwood Experiment* (London, 1969), 113.
19   L.H. Fox, 'Identification of the academically gifted', *American Psychologist*, Vol. 36, No. 10 (1981), 1103.

Methodology

The science test was taken by 133 third-year students at secondary level and was administered at the end of the scholastic year. Participation in the study was on a voluntary basis. Students' examination marks for three school Physics tests, administered across the form through that scholastic year, were made available to the author by the school administration and were also considered. The average performance mark on the school tests for each student was computed, as was the overall placing and percentile.

Physics teachers' nominations of highly able students were also taken into consideration. A screening and nomination form[20] was made available to the teachers. Using the students' results and teachers' nominations, subjects were shortlisted for further participation in the study.

The subjects shortlisted

Table 1 indicates a shortlist of young subjects participating in the final study.

Subject Number	Chronological Age	Teacher Nomination (Yes/No)	Percentile Physics school tests	Science Test Mark (%)	Remarks
1	14yr 05mt	Yes	92.5	86	
2	14yr 02mt	Yes	89.5	80	
3	14yr 08mt	Yes	90.2	83	GS
4	14yr 09mt	Yes	94.0	80	
5	14yr 06mt	No	97.7	86	
6	13yr 08mt	No	97.7	87	
7	14yr 04mt	Yes	95.5	71	
8	14yr 05mt	Yes	98.5	69	TN
9	14yr 06mt	Yes	99.2	63	
10	14yr 04mt	Yes	95.5	63	
11	13yr 11mt	No	49.6	49	
12	14yr 03mt	No	49.6	43	
13	14yr 03mt	No	47.4	77	AS
14	14yr 00mt	No	47.4	51	
15	13yr 11mt	No	45.9	63	

Table 1: Students chosen for the study

20   Whitmore, 428.

Subjects 1 to 6 were considered as gifted students (GS). Subjects 11 to 15 were the average students (AS), while subjects 7 to 10, who were teacher nominated (TN), were asked to participate in this study even though their science test mark was rather low.

Another shortlist of students (girls and boys) from a post-secondary college in Malta is shown in Table 2. These subjects, chosen from among 146 students, were judged gifted (GC) or average (AC) on the basis of their performance in an end-of-year Physics examination which they had all sat for, as well as through the author's personal acquaintance after having been their teacher for one year.

Subject Number	Chronological Age	Test Mark (out of 70)	Percentile in Physics exam	Remarks
16	17yr 06mt	57	97.9	
17	17yr 07mt	57	97.9	
18	16yr 11mt	63	99.3	GC
19	17yr 04mt	57	97.9	
20	17yr 03mt	62	98.6	
21	17yr 00mt	53	92.5	
22	17yr 02mt	38	45.9	
23	17yr 03mt	38	45.9	
24	17yr 00mt	37	43.8	AC
25	18yr 02mt	36	41.8	
26	17yr 00mt	37	43.8	
27	17yr 07mt	38	45.9	

Table 2: College students chosen for the study

The instruments used

Once the subjects were shortlisted, they were given the following tests of logical thinking (Piagetian experiments) to complete on an individual basis:
    (a) the flexibility experiment;
    (b) the pendulum experiment;
    (c) combination of colourless liquids.

The author acted as researcher and all that was said was recorded and transcribed. These experiments were adapted from Piaget's original

experiments.[21] Using the experiments and the results suggested, the author was able to judge the cognitive level of the students.

The results and their interpretation

Subjects' responses as they worked individually on the three Piagetian experiments were first categorized separately and the level of development on each task was decided (see Key to stages of development below). The latter was given a numerical value[22] and from the results of the three tasks, an average level of cognitive development per subject, over the three experiments was obtained. Fig. 3 shows the results.

Key to stages of development:

PO — pre-operational
PO – EC — pre-operational to early concrete
EC — early concrete
C — Concrete
LC — late concrete
LC – EF — late concrete to early formal
EF — early formal
F — Formal

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21   B. Inhelder and J. Piaget, *The Growth of Logical Thinking from Childhood to Adolescence*, 2nd edn. (UK, 1966).
22   D.P. Keating, 'A Piagetian approach to intellectual precocity', 90, in D.P. Keating (ed.) *Intellectual Talent: Research and Development* (Baltimore and London, 1976).
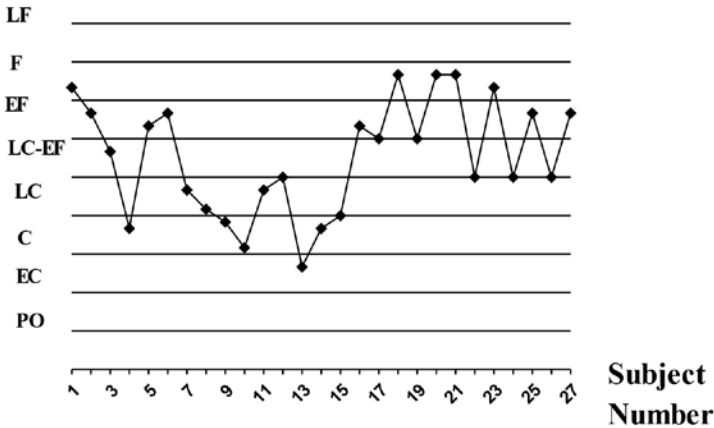
Fig. 3: Average level of cognitive development per subject over three tasks

Fig. 3 shows how four out of six (GS) subjects have resulted at a level very comparable with the GC and some of the AC subjects who were, in fact, some 3 years older and who certainly had a much wider overall experience by comparison. The TN subjects (chosen to validate teacher nomination and academic performance as a means of identification) are at the same overall level of cognitive development as the AS group, an indication that teacher nominations and performance grades alone need not always be enough to identify the 'gifted' students – teachers certainly need their fair share of training in this area.

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Per cent passing (reaching LC–EF and beyond)
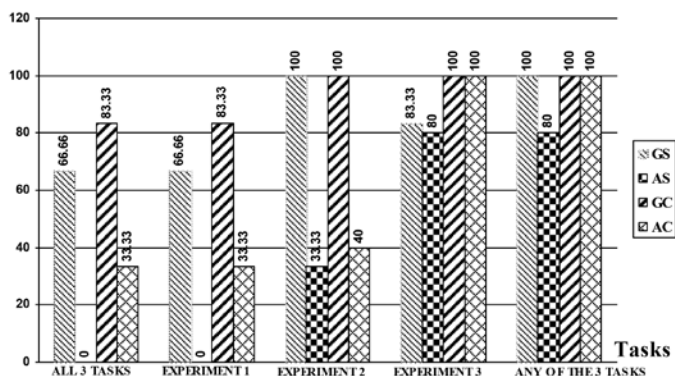
Fig. 4: Per cent showing formal operations on three tasks

For the purpose of the above graph, TN subjects were not considered and levels of cognitive development from LC – EF and above, were considered 'formal operational'.

The first set of columns in Fig. 4 shows the percentage of subjects in each group who evidenced formal operational thinking in all 3 tasks. This was, of course, *the most stringent criterion*, and by it the order of the groups is GC>GS>AC>AS. The same order is evidenced in experiment 1. In experiment 2, the order is GC=GS>AC>AS. In experiment 3, the percentage of AC is higher than that for GS and in the final set of columns, which was the most lenient criterion, the GS are at the same level as both the older groups.

The above analysis offers clear indications that the GS were beyond their average peers in cognitive development, as well as possibly being sometimes superior to, and at times at par with average older students attending college who were three years their seniors.

Recommendations and conclusion

The results presented above are similar to those in another study[23] conducted with 11-year-old gifted and average boys comparing them

23   Ibid., 95.

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to average and gifted students two years their seniors. Further studies[24] have also shown that gifted children demonstrate earlier transition to successive stages. According to Piaget, cognitive development proceeds as an interaction of the organism and the environment. The brighter individual shows a tendency to make more interactions with the environment, with more effective use of it. This is described as 'the self enriching the cognitively relevant environment'.[25]

Knowing more about the nature of giftedness and the mode of development of intelligence of the gifted, it must be said that educators need to make adequate educational opportunities to help able students develop to their full potential. These students must be identified early and a curriculum appropriate for their level of intelligence must be made available. School administrators should seek to secure appropriate resources for enrichment and extension activities in schools. Today, with the advances made in technology, it should be easier to plan school programmes which can help gifted learners work on their own when the need arises and communicate with others of the same interest and the same mental age when this is required. The motivation of the gifted to learn must not be dampened. Moreover, teachers of the gifted should be more aware of how to help these children. In-service and pre-service courses related to gifted education are necessary for this. The gifted need to be encouraged to participate in class discussions. High-quality teaching must be on offer. Moreover, the parents of these children also have an important role to play in educating their children. It is essential that parents recognize the difference between pushing and intellectual stimulation. Parents can help by sharing suitable experiences with their children, like travel, museum, and cultural visits and use of libraries. Other studies[26] have emphasized the importance of these issues. Joyce Van Tassel-Baska refers to such recommendations as 'the nonnegotiables' in gifted education.[27]

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24 Carter and Ormrod, 110; Shields, 88.
25 Keating.
26 J. Borg Marks, 'The International Programme Perspective: The Education of Gifted Children in Malta', *Gifted and Talented International*, Vol. 16, No.1 (2001), 47; J. VanTassel-Baska, 'Gifted Programs and Services: What are the Nonnegotiables', *Theory into Practice*, Vol. 44, No. 2 (2005), 90.
27 J. VanTassel-Baska, 'Excellence as a Standard for All Education', *Roeper Review,* Vol. 20, No.1 (1997).

This author feels that excellence has to be looked at as a standard for education at all levels. It is easy to link the gifted with excellent performance because often it is the latter who *seem* to be the only ones who achieve high grades because of their high potential and disposition towards learning. However, it is important to appreciate that when we plan curricula and choose the best resources for teaching and use all our energy to try and motivate students, we do this for ALL students. What helps the gifted should also help any student to reach his full potential. This author thus believes wholeheartedly that excellence is 'the process of working towards an ideal standard and attainment of a consistently high standard and performance in a socially valued endeavor'.[28] This definition applies for everyone and avoids the elitist view that some people may have with regard to the gifted and their education.

The gifted are a vulnerable group. They have their special needs. Refusing to ignore this is an injustice to highly able/gifted children and a social injustice in education especially when we boast that we are in the era which offers a quality education for all, hoping that no child is left behind.

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28   Ibid., 9.

A Pilot Study on e-Learning in Small Online Discussion Groups and Experimental Design in Biology

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Abstract: This pilot study focuses on assessing the effectiveness of discussion in small online student groups. More effective learning may be promoted through properly designed discussion tasks. These can be effective learning tools to promote creativity, student-student and student-teacher interactions, as well as promoting understanding for the learner. A two-week online course was designed for Advanced level biology students aimed at establishing an online learning community to encourage discussion of experimental procedures in small groups of 5–9 students. The study was carried out during a 2-week slot in 2016 and in 2017 with 28 and 38 students respectively. Results based on average scores for the various assigned activities were positive. Most students appreciated acquiring skills when using discussion forums. Students mentioned difficulties with meeting deadlines and the technology. The course needs some tweaking to facilitate further students' participation.

Keywords: Blended learning, online course design, small discussion groups, biology teaching and learning

B lended learning is a form of learning where traditional face-to-face (F2F) methods are combined with digital materials. Figure 1 shows a spectrum of various teaching methods from traditional F2F to the completely online method.
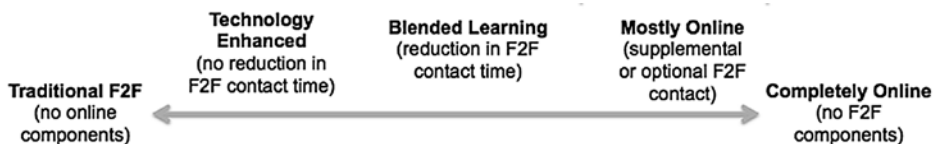
Figure 1

F2F and completely online methods have advantages and disadvantages. The F2F environment makes it easier for teacher and students to bond and interact during the discussion; there is more spontaneity which allows for a more rapid exchange of a chain of associated ideas. However, not everyone can participate especially if there are dominant personalities in the class and time is limited so one might not be able to reach the discussion depth one would like.[1] 'Pacing' of the traditional classroom to match discussion or teaching in a traditional class with the individual students' ability to learn is difficult.[2] Asynchronous text-based discussion in an online computer-mediated environment provides flexibility for students so they can contribute to the discussion at the time and place that is convenient to them; 100% of students can participate as time and place constraints are removed; it also provides chance for more reflection as learners have time to more completely consider and provide evidence for their claims as a result of deeper and more thoughtful reflections. Its weaknesses include little or no spontaneity at the cost of less generation of a rapid chain of associated ideas; procrastination and the medium is considered to be impersonal due to poor human connections.

Blended learning seeks to take advantage of the best of both traditional and completely online learning. The focus of this study was to assess the effectiveness of discussion of experimental design procedures in small student groups in an online blended learning environment.

1   C.R. Graham, 'The Handbook of Blended Learning Systems: Definitions, current trends and future directions', in *Handbook of Blended Learning: Global perspectives, local design*, ed. C.J. Bonk and C.R. Graham (San Francisco, 2006), 3–21.
2   Qiuyun Lin, 'The Role of Web-Based Activities in Mediating Student Interaction and Engagement in Four Teacher Education Classes', *Journal of Online Learning and Teaching*, 7 (2011), 99.

Discussion is an important aspect of active learning. Class discussions offer students opportunities to test their ideas and opinions against the ideas and opinions of their peers.[3]

Studies have shown that online discussion can be an effective tool to foster collaborative learning,[4] provide more productive use of class time,[5] as well as increase active learning.[6]

The topic for discussion in this study was experimental design as this is the underlying process of scientific investigation. Students may recognize the general steps involved in scientific investigation but often have only a surface understanding of the process.

Hands-on experience in the design of experiments has been widely recognized as an effective means of teaching experimentation and as a critical component of undergraduate science education.[7]

In the early stages of the biology programme at Junior College (JC), students complete the first part of a laboratory set of practical sessions in which they design and conduct their own experiment before answering questions on a worksheet relating to the analysis of the data and interpretation of their results. As they progress through their studies, there are opportunities to design experiments in subsequent practical sessions. However, students struggle to design their experimental procedures, possibly because there is little time for discussion of their procedures. The following pilot study focused on assessing the effectiveness of online discussion in terms of JC students' understanding of principles of experimental design as currently expected by the Advanced Matriculation Biology syllabus (Malta).

Aim: To design and assess an online two-week course for JC students studying Advanced Level Biology and assess the effectiveness of resulting online discussion groups.

3   'The Importance of Class discussions – Speaking in the Disciplines, University of Pittsburgh', http://www.speaking.pitt.edu/instructor/class-discussions.html accessed 30/08/2017.

4   K. Mäkitalo-Siegl, 'From multiple perspectives to shared understanding: A small group in an online learning environment'. *Scandinavian Journal of Educational Research,* (2008), 52(1), 77–95.

5   H. Alkharusi, A. Kazem, & A. Al-Musawai, 'Traditional versus computer-mediated approaches of teaching educational measurement'. *Journal of Instructional Psychology*, 37 (2010), 99–111.

6   R, McCrory, R. Putnam, & A. Jansen, 'Interaction in online courses for teacher education: Subject matter and pedagogy', *Journal of Technology and Teacher Education*, *16* (2008), 155–80.

7   D.J. Adams, 'Current trends in laboratory class teaching in university bioscience programmes', Bioscience Education, 13 (2009),1–13.

Materials: Online course designed for the purpose of this pilot study based on principles followed at ION;[8] 2 groups of 28 and 38 students in 2016 and 2017 respectively.

Method: The study was carried out in two main steps.

Step 1: Design of an online two-week course as a form of blended learning.

Step 2: Students' feedback responses were studied and analysed.

Step 1: The online two-week course was entitled Experimental Design Practice and Discussion Online Course (EDP-DOC). The two-week online course was designed for First-year Advanced Level Biology students, based on principles followed at ION. The aim of the course was to establish an online learning community among students to encourage discussion of experimental procedures in small groups of 5–9 students.

The online course consisted of a Course Home Page, Module One (Icebreaker activity), Module Two (Experimental Design Activity), & Reflection Activity.

Course Home Page was designed to include an overview of course information regarding syllabus covered during the course, expectations of students' participation, and a calendar of due dates with scoring points for the various course assignments. Course readings/resources and a note on course communications forum were also included. The course activity was designed to form part of the third assessment in the first-year advanced level programme. The maximum score for participation in the course was 80 marks.

The course consisted of two main modules:

Module One: This module was designed to help students participate in an ice-breaker activity with the aim of establishing an online learning community as well as to learn to navigate online using the online discussion forum on a Moodle (VLE) interface. The module was entitled 'Introducing Ourselves'. Students were asked to introduce themselves, post a relevant photo, and respond to at least two of their peers. This first module scored 20/80 points. This forum was open to all participants.

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8   ION (Illinois Online Network – University of Illinois) – MVCR (Making the Virtual Classroom a Reality) courses.

Module Two: 'Experimental Design Activity'. In this activity students were split up into small groups of 5–8 students. The activity consisted of three main tasks. Task One: Each student booked an experimental design question from a list of questions (taken from AM or JC past papers), so each student had to work on a particular experimental design problem. Students were asked to avoid booking a question already chosen by one of their peers within the group, if possible. The reason for this was to make possible the discussion of different questions related to experimental design within the small group. Task two: After referring to course readings/resources, each student posted his first response to the question and gave feedback to at least two of their peers within the small group. Task three: A final revised answer was eventually posted by each student.

This activity was designed to encourage discussion within the 'small group' forum. The purpose of this assignment was to give each student an opportunity to design his own experimental procedure, which can be carried out in the lab and answer questions relating to the procedure. In addition each student was expected to receive and give feedback on various experimental designs and related questions within his small group. This activity scored a maximum of 50/80 marks.

My role as facilitator during the course was to give feedback to students as necessary, taking care not to take the central role but rather to be a 'guide on the side' of the various threads of discussion in the forums.

Reflection Activity: In this last activity, students were asked to give feedback on the following aspects of the course: Their biggest take-away from the course; The most useful resource or activity during the course; The least useful resource or activity; Other comments or reflections regarding their personal learning experience or online learning in general. This activity scored 10/80 points.

Step 2: The study was carried out during a 2-week slot at the end of March–April in 2016 and in 2017 with 28 and 38 student participants respectively.

The course was introduced to the class in a face-to-face session. Students were asked to get their own tablets or smartphone so they could access the course online on their VLE in the classroom.

Netiquette rules were outlined, while the importance of practising positive feedback and respect for others online were pointed out. The different parts of the online course as seen online were demonstrated in class. This was followed by a short practice session using the facilities of the discussion forum in Module One. This was necessary as most – if not all – students in the group were not familiar with the use of the discussion forum. During the first week, scheduled for Module One, some students still experienced difficulty in using the discussion forum and uploading photos. These difficulties were sorted on a one-to-one basis. The various activities were graded by me as facilitator.

Also as facilitator, I gave feedback online when required, especially during Module Two.

At the end of the course, quantitative data resulting from scores obtained by students in the various activities was collected and grouping of a number of feedback comments was also carried out.

Results
April 2016 (First week of the third (final) term of the scholastic year (28 participants)

	Module 1	Module 2	Reflection	Course Total
Average score	16	40	5	61
Maximum score	20	50	10	80
No. of final postings by due dates	28	17	0	–

Table 1 Average scores and number of final postings by due date in April 2016

All 28 participants took part in the Module 1 (icebreaker activity) and all students posted by the due date.

Twenty-seven participants posted their initial response in Module 2 but 23 students posted their revised work; 4 of the 27 participants did not compete the Module as they failed to post their revised work. Seventeen of the 27 participants posted their revised work by the due date.

Fourteen out of the 28 participants gave their feedback in the end of course Reflection Activity; none of the 14 students posted by the due date for this activity.

April 2017 (Last two weeks of the second scholastic term) (38 participants)

	Module 1	Module 2	Reflection	Course Total
Average Score	19	40	7	66
Maximum score	20	50	10	80
No. of final postings by due date	33	0	6	–

Table 2 Average scores and number of final postings by due date in April 2017

Thirty-five students took part in the Module 1 activity; 33 posted by the due date.

Thirty-five students posted their initial response in Module 2 but 4 failed to post their revised responses. None of these students posted by the due date.

Twenty-eight students gave their feedback in the end-of-course Reflection Activity and 6 of these posted by the due date. Twenty-two students posted past the due date as they encountered problems or could not cope with the work load.

Feedback from students: 14/28 students posted their feedback in the Reflection Activity in 2016 and 28/38 students gave their feedback in 2017 Reflection Activity.

The Reflection Activity asked for feedback on four main points:

The following are some first-hand responses from students.

1. *Biggest take-away*

A number of students appreciated the experience in the following areas:

    i. Use of VLE discussion forums to give and receive feedback from fellow students in a learning online community;

    ii. Team work can be critical to improve one's work; opportunity to analyse another peer's work and give feedback for improvement; opportunity to work with others; 'I also got the chance to be exposed to how different individuals tackle questions' by using a

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different approach. More confident when answering experimental design questions; more confident communicating with colleagues online;

iii. Devise, learn about more reliable and reproducible experimental design and procedures;

iv. Learnt to analyse questions/more critical thinking;

v. Fun and out of the ordinary activity;

vi. Netiquette rules;

vii. Handy skills for the future when participating in other online courses;

viii. Greater awareness of the benefits of using reliable resources online

2. *Most useful resources/activity*

The comments here again reinforced an appreciation of the advantage of the discussion forum:

i. All the participants in the group answered different questions so that we could discuss them. I found this very useful as we didn't have to work them all out but at the same time we could discuss the questions assigned and think about the answers. It was great that we all had a copy of the answers to the different questions in the end. (2016);

ii. Broaden my knowledge of experimental design;

iii. Feedback from peers and tutor;

iv. Answering and discussing exam-related questions;

v. 'We posted our answers and received feedback to rearrange our answers';

vi. Learn from our mistakes;

vii. The fact that we were free to comment or hand in our work at any time of day. Also, I liked the reviewing aspect of this course.

3. *Least useful resources*

i. A number of students commented that the Module1 (Icebreaker activity) was a waste of time

(Other students felt differently – icebreaker activity helped them learn more about classmates/class go to know each other a little bit better)

4. *Other comments*

   i. Deadlines were a problem as I couldn't keep up; little time to read/use resources;

   ii. Dependence on the internet/computers which are not always available or reliable;

   iii. Internet resources have to be reliable as in some cases information is not correct;

   iv. The reply system on the VLE can be frustratingly slow and should be more user friendly;

   v. I would have preferred if this assignment was assigned to us either during the previous term (this course[2016] took place at the beginning of the third term, after the Easter holidays), or during the Easter holidays, as much more time would have been devoted, on my side, to the course. This is so since the third and final term is the most stressful of the three, and so I feel that I did not provide my utmost towards this course.

   vi. Prefer pen and paper in some cases! (2017);

   vii. I did enjoy the idea of a forum like this being used for other subjects as well. Having open threads for each module could help those people who are looking to answer specific questions. It could also facilitate resource sharing between the class. (2016);

   viii. Not everyone takes the same time to study a particular topic and I personally prefer online learning over traditional classroom setting. This is because most lectures could be easily recorded and uploaded online, to be listened to as needed and at one's own pace. Besides, traditional lecturing isn't the most exciting way to go around learning a subject in my opinion. There are so many better alternatives online and that's why I think open threads per module would be beneficial for, it would help us gather the best sources and make them easily accessible to others. Lecture time could be re-purposed for more tutorial-like discussion-oriented activities. (2016)

Discussion: Results based on average scores over the 2016 and 2017 two-week courses were in the region of 79% with 76.25% in 2016 and 82.5% in 2017.

For Module 1 (Icebreaker activity), the average scores were 16/20 (80%) in 2016 and 19/20 (95%) in 2017. This indicates a high level of interest, participation, and effort by the participants.

In the Module 2 activity, average scores were 40/50 (80%) for the experimental design activity module. Again these scores indicate high student effort and participation.

'Posting by due date' data shows that, for the Module 1 activity, all students posted by the due date in 2016, while 33/38 (87%) did so in 2017. This contrast significantly with data for due date posting for Module 2 (Experimental design activity) with 17/28 (61%) postings on time in 2016 and 0/38 (0%) in 2017. This points to the fact that Module 2 activity is more stressful, requires more time and effort from participants as more critical thinking, active learning, and discussion is involved in this activity. Students needed more time to post the final version of their work.

Data based on reflection responses at the end of the course were generally positive. Points made by students as 'their biggest take-away' and 'most useful resource/activity during the entire course' included appreciation of the advantages of the discussion forum and the potential that this tool offers for active learning. Least useful resource/activity was generally seen as the Module 1 activity. Given the opportunity and logistics necessary, this should ideally take place in first term of the academic year (e.g. November). In the 'other comments' reflection responses, deadlines were a problem in the Module 2 activity. This is supported by data concerning postings by due date. This is understandable as this activity required more effort in terms of time management and critical thinking than a normal assessment activity. Some students had a difficult time with the technology, in particular internet access. Another student commented on the possibility of using the discussion forum for other topics and the advantage of incorporating online resources in discussion forums, as this meant that these can be shared by the online learning community and viewed a number of times at the student's own pace and time.

One final point is that a number of students did not cope with the work load on time. To quote from the literature, one of the challenges of technology enhanced courses that do not replace classroom activities with online activities is the 'course-and-a-half syndrome'. Course-and-a-half syndrome involves adding more and more online components to

a course without reducing any of the face-to-face instruction.[9] Effective blended learning considers the strengths of both the online and face-to-face environments and strategically incorporates activities that take advantage of the strengths in both environments. This involves rethinking the course design. To help avoid course-and-a-half syndrome, the blended learning initiative should eventually consider redesigns that replace some 25% of face-to-face time with online activities.

Conclusions and recommendations

The present course needs some tweaking to facilitate further effective students' participation and further collection of data. The general outcome of the course was positive. Students initially needed guidance in the use of the discussion forum and this was provided in a face-to-face environment. It was important for me as facilitator to overview the discussions and guide or give feedback where appropriate.

Recommendations for future work are to introduce a one-week activity (icebreaker activity early in November of the academic year). This would have the benefit of establishing an online learning community early on in the year. The Module 2 type of activity can take place later on during the second term (March), following the experimental design laboratory sessions that take place in a F2F activity in the biology programme.

Module 2 type of activity (involving critical thinking, active learning, and discussion) can include topics other than experimental design e.g. discussion of essay plans or review of data analysis questions.

Time management tips and length of time to be spent on the various activities during the course may be helpful to students and can be included in the course design.

Finally, this was a time consuming activity for both facilitator and students. It would be ideal if the various educational institutions were to promote effective online courses of high standard also by providing adequate time slots for facilitators and students of such courses.

9   W. Freeman & T. Trembl, 'Design Considerations for Supporting the Reluctant Adoption of Blended Learning', *Journal of Online Learning and Teaching*, March 2013, Vol. 9 (1), 80.

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The Private–State Interface: A Social Network Analysis of the Board of Directors of Malta Enterprise and its Predecessors

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Abstract: Historically, the boards of the Industrial Development Commission (pre-Independence), the Malta Development Corporation (1967–2004), and Malta Enterprise (2004–present) have always included representatives of private enterprise. The Malta Enterprise Act (2003) requires the minister responsible for the corporation to appoint persons (amongst others) who appear to the minister to have experience and show ability in matters relating to (amongst others) industry, trade, finance and organizations of employers. Almost identical provisions may be found in the Malta Development Corporation Act (1967).

Such organizations play an important role in economic development, mainly through policy and practice. They also provide an 'interface' between private enterprise and the state, between private interests and the public interest.

This paper proposes a Social Network Analysis (SNA) of the board of directors of Malta Enterprise and its predecessors, including that of the Malta Chamber of Commerce and Federation of Industries. Further data could also be gathered, especially from employers' and workers' associations, private entities such as Banks, or directorships of private enterprises, particularly those who had formed partnerships with other noted entrepreneurs who were on the boards of the studied entities.

Keywords: social network analysis, Malta's economic development, entrepreneurial class, national bourgeoisie

I n current economic sociology and some economic thought such as institutional economics, the idea of state and market are that they constitute 'two sides of the same coin'.

It especially holds in countries where historically there is no domestic national entrepreneurial class. Such an entrepreneurial class is necessary to allow the institutional changes needed to foster sustained economic growth based on a diversified economy with a productive backbone. It is more apparent in an island economy which is confronted with smallness, remoteness, and openness.[1]

After the Second World War, many British Commonwealth countries set up development corporations to counter the absence of a socially and politically powerful national entrepreneurial class in productive economic undertakings.

Malta Enterprise (ME) and its predecessors, namely the Malta Development Corporation (MDC) and the Industrial Development Board (IDB), are key to understanding the literature associated with the historical 'weakness' of the Maltese entrepreneurial class and their preference to concentrate on importation, distribution, real estate, and the local market.

Literature from Vella,[2] Chircop,[3] Brincat,[4] Refalo,[5] and Baldacchino[6] provide a historical understanding of the social groups and outline Malta's economic development and the challenges faced by small islands and opportunities presented.

Such legal structures as the above development corporations provide the intention of bringing on board leading representatives of business to cultivate political, cultural, and technical acumen in order to kick start the island's economic development.

1   G. Fischer and P. Encontre, 'The Economic Disadvantages of Island Developing Countries: Problems of Smallness, Remoteness and Economies of Scale' in *Competing Strategies of Socio-Economic Development for Small Islands*, ed. G. Baldacchino and R. Greenwood (Prince Edward Island, 1998), 69–87.
2   M. Vella, 'Forgetting Industry: The Scarce and Selective Visibility of Malta's Industrial Experience in the Field of Vision of Maltese Sociology' in *Revisiting Labour History*, ed. J. Chircop (Malta, 2012).
3   J. Chircop (ed.), *Underdevelopment: The Maltese Experience 1880–1914*, (Malta, 1993).
4   M. Brincat, 'The Birth of the Maltese Model of Development 1945–1959', *Journal of Maltese History* (2009), 34–52.
5   M. Refalo (ed.), *The Maltese Commercial Class 1870–1914* (Pisa, 2010).
6   Fischer and Encontre.

The mercantile social bloc

The historico-politico conditions which governed what may be termed as the decline of the cotton industry and the 'rise of the merchant families' provide a context to understand the historical framework of the island's entrepreneurial class.

During the seventeenth and eighteenth century, Malta had trading osts in Spain, Portugal, and France, amongst other countries. Its main products included the cultivation and spinning of cotton, salt, the manufacturing of caps. The cotton industry occupied nearly three-quarters of the Maltese population.[7]

Chircop[8] postulates that an indigenous cotton industry was not allowed to 'take off' owing to the alignment of local pre-capitalist interests and anti-protectionist policies by the colonial administration. In this regard, a mercantile economy emerged and engulfed all the sectors on the island, further fragmenting the traditional manufacturing industry.

The merchant families' considerable influence – aided by its own reproduction, intermarriages, convergence with the colonial administration interests, and representation on board such as of the Chamber of Commerce, together with certain political acumen – entrenched their socio-economic status and created a social bloc which 'lacked public spirit and the spirit of enterprise'.[9]

De-colonialization

The 'mercantile social bloc' and colonial admiration converged as 'Britain sought to develop Malta mainly in those areas that best suited its interests ... to serve ... the vital British commercial and military routes'.[10] By 1957 approximately a quarter of Malta's labour force was still employed by the British services.[11]

7   C. Vassallo (ed.), 'Maltese Entrepreneurial Networks', *Diaspora Entrepreneurial Networks: Four Centuries of History*, 1 (2005), 125–44.
8   Chircop.
9   Chircop, 112–19.
10   Vella, 5.
11   G. Baldacchino, 'Far Better to Serve in Heaven than Reign in Hell: Malta's Logic of Relat-

After the Second World War, owing to the atmosphere of upside-down de-colonization[12] and dependence on British military service expenditure, Malta's economy was to be stimulated by capitalist development which was 'to be an industrial one ... export-led ... and based mainly on wholly or partially foreign-owned enterprise'.[13]

The government's vision was then orthodox with elements of classical, Keynesian economics, and Rostowian 'stage's scheme'.[14] This required a certain element of economic planning[15] and 'in the absence of a progressive [entrepreneurial class] able and willing to promote industrial development, ... the task of promoting capitalist industrialization had to be taken up by the [State]'.[16]

The relationship between the state and the private therefore developed as government acted as the 'planner' and private enterprise acted as 'partner' and 'executioner'.[17]

Even though this relationship was being fostered, Baldacchino[18] notes that entrepreneurship in small island states is lacking, and usually results in local entrepreneurs being '... dismissed as deficient in organizational skills, technical know-how and risk orientation'.[19]

Brincat,[20] citing the fifth development plan, also notes how such a lack of 'enterprising spirit' resulted in dependence on foreign investment as the 'domestic bourgeoisie was incapable of generating self-sustaining industrialization'.[21]

In this respect Zammit[22] notes how entrepreneurs required incentives to invest in Malta.

ing to the European Union' in *Competing Strategies of Socio-Economic Development for Small Islands*, ed. G. Baldacchino and R. Greenwood (Canada, 1998), 213–37.

12   Ibid.

13   Vella, 54.

14   Ibid., 59.

15   *Plans, Policies and Strategies of the Maltese Government: 1960–1990*, ed. C. Zammit (Malta, 1994).

16   Vella, 57.

17   *An Assessment of Industrial Development in Malta: a Cost-Effective Approach*, ed. S. Busuttil, J. Dowdall, L. Baron, and A. Rote (Malta, 1970).

18   G. Baldacchino (ed.), 'Bursting the Bubble: The Pseudo-Development Strategies of Micro-States', *Development and Change*, 24 (1993), 29–51.

19   Ibid., 34.

20   Brincat, 34–52.

21   M. Brincat and J. Falzon, 'Aspects of the Economic Conditions Surrounding the Birth of the Labour Party in Malta', in *Revisiting Labour History*, ed. J. Chircop (Malta, 2012), 122–74.

22   Zammit.

The Aids to Industries Ordinance, the Industrial Development Act, and the Business Promotion Act offered 'incentive packages' to aid Malta's economic development. This aid was to be curated by the above mentioned boards.

It is in this light that the acts and boards mentioned above illustrate how the interlocking of the 'strengths' of the private sector and 'socially-relevant goals' of the state are intertwined.[23]

Malta's developmental state

In his unpublished doctoral thesis Brincat[24] suggests that Malta's post-colonial economic development could be described as 'Developmental State', even though it was out of 'praxis that was rooted in and addressed Maltese realities'. The 'Maltese Developmental State' 'can be described as a case of "political capitalism": property, wealth and profit were mostly private, [whereas] the state and its bureaucrats acted within the overall parameters set by a capitalist system'.[25]

Brincat continues stating that Developmental States might have to curate their own 'national bourgeoisie', which entails the state acting as a 'catalyst' to curb the shortcomings of the local entrepreneurial class.

Therefore, the state, and through a 'dedicated state apparatus, such as the Malta Development Corporation' initiated relations with foreign enterprises to fill in the gap created by a 'small, socially, politically, and technically weak manufacturing ... local bourgeoisie'.[26]

It is crucial to understand such apparatuses sociologically, as they offer a curated space where the interests and relations of both the state and the private interplay.

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23   *Autonomy and Control of Public Corporations: The Case of the Malta Development Corpo-ration*, ed. A. Borg (Malta, 1998).

24   Brincat, 34–52.

25   M. Brincat (ed.), *Export-Led Industrialisation and Development in Malta, 1955–2000* (Malta, 2009).

26   M. Vella, 'The Economics of Hypocrisy – Deconstructing Half a Century of Development Discourse in Malta: Notes on Work in Progress', in *Social Transitions in Maltese Society*, ed. L. Cutajar and G. Cassar (Malta, 2009), 251–394.

State apparatus as a social network

The boards of directors of such 'state apparatus', mainly MDC and ME, were composed of representatives from government, private enterprise and associations, and unions.

The selection of such representative was entrenched in the legal acts of the development corporations and it is within reason to assume that such boards offered the conditions likely to generate networks in order to share resources and common goals.

Crossley[27] stresses that 'networks form and are formed around "social worlds" which centre upon specific shared or overlapping interest which bring actors together in collective action ...', and as problems that arise or could arise are usually 'resolve[d] via friends and friends-of-friends with whom we may even form temporary alliances'.[28]

Embedded networks

Although the author had undertaken an initial and exploratory research using a 'positional approach' and 'linked lists' methods, it was an exercise to understand the possibility of a social network within such state apparatus.

It is in this spirit that this paper proposes a social network analysis (SNA) of such state apparatus in order to understand the creation and the experience of the local entrepreneurial class in a modern and contemporary context.

It is within the discipline of (new) economic sociology to illicit such experiences and to frame them in 'the problem of embeddedness'. Such economic activity should be understood through social relations and avoid 'under-socialized' or 'over-socialized' frameworks as 'economic action must consider embeddedness in such structures'.[29]

Social network analysis alleviates such a 'problem of embeddedness' as 'it takes as its staring point the premise that social life is created

27 *Towards Relational Sociology*, ed. N. Crossly (London, 2011).
28 J. Boissevain, *Friends of Friends: Networks, Manipulators and Coalitions* (Oxford, 1974).
29 M. Granovetter (ed.)*, 'The Impact of Social Structure on Economic Outcomes', *Journal of Economic Perspectives*, 19 (2015), 33–50.

primarily and most importantly by relations and the patterns they form'.[30]

In the context of Malta Enterprise and its predecessors, these concepts tie the Schumpeterian idea of entrepreneurship 'by pulling together previously unconnected resources for a new economic purpose'.[31] These resources 'reside in separated networks'[32] and need to be 'bridged'. Such resources could be defined as 'social capital'. Members who have weaker ties are viewed as having better social capital, where they capitalize their ties to be more successful.[33] As argued by Bogenhold[34] 'national and global policy makers started to employ social capital as a strategic concept for the use of an increasing number of associations'.

SNA would provide the quantitative mapping of such networks and the ability of further qualitative research. The formation of networks, the flow of information, and resources which form 'social capital' could be empirically studied within the context of an embedded social network and the experience of the local entrepreneurial class.

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30   A. Marin and B. Wellman, 'Social Network Analysis: An Introduction', in *The Sage Hand-book of Social Network Analysis*, eds. J. Scott and P. Carrington (London, 2011), 11–25.

31   Granovetter.

32   Ibid.

33   S. Borgatti and V. Lopez-Kidwell, 'Network Theory', in *The Sage Handbook of Social Network Analysis*, ed. J. Scott and P. Carrington (London, 2011), 40–54.

34   D. Bogenhold (ed.), 'Social Network Analysis and the Sociology of Economics: Filling a Blindspot with the Idea of Social Em beddedness', American *Journal of Economics and Sociology*, 72 (2013), 293–318.

Rotture nette e recuperi latenti: Joyce e Pirandello nei confronti della tradizione letteraria

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Riassunto: La mia indagine si propone come ipotesi di lavoro due tendenze letterarie analoghe, le quali mi permettono di specificare il contributo innovativo delle opere di James Joyce e Luigi Pirandello al modernismo. Queste due tendenze comportano sia la tendenza di segnare delle forti rotture con la tradizione letteraria sia l'altra tendenza di recuperare aspetti precedenti della tradizione. Le mie comparazioni tra Joyce e Pirandello sul piano metaforico, nel senso di usare l'uno come reagente per leggere l'altro e viceversa, conferiscono uno spazio dialettico di connessioni e sconnessioni dalla tradizione letteraria senza le quali lo studio dell'evoluzione del romanzo e del teatro moderno sarebbe incompleto. James Joyce e Luigi Pirandello furono motivati da un atteggiamento estetico comune che li spinse a rivisitare e trasformare i generi del romanzo e del teatro rispettivamente. Però con la loro revisione del genere, Joyce e Pirandello non si limitano solo ad un superamento o ad una sovversione, ma giungono anche alla conservazione e alla riconnessione problematica ad alcune strutture letterarie operanti in precedenza alla loro scrittura. Anche se si continua a considerare Joyce e Pirandello come gli scardinatori del romanzo e del teatro rispettivamente, sarebbe incompleto presentarli unicamente in questo modo. Un modo per concettualizzare meglio queste rotture radicali di Joyce e Pirandello dalle forme teatrali e romanzesche, può essere di vederle tramite quello che Jean-François Lyotard, ricorrendo al concetto del sublime, individua come il desiderio di presentare l'impresentabile e che chiama il postmoderno (o definisce come discrimine tra modernismo e postmodernismo).

Parole chiave: Luigi Pirandello, James Joyce, Jean-François Lyotard, impresentabile, Modernismo, Postmoderno, teatro, romanzo

Connecting and Disconnecting from Literary Tradition: Joyce and Pirandello

Abstract: This paper shall be looking into two analogous literary tendencies which highlight the innovative contribution of James Joyce and Luigi Pirandello to Modernism. I perceive these two tendencies as simultaneously disconnecting from, as well as connecting to, literary tradition. My metaphorical comparison of Joyce and Pirandello, by using one to cast light on the other, confers an analysis of their (dis)connections vis-à-vis literary tradition; hence I postulate that this reading is fundamental to understand the evolution of the modernist novel and theatre. Joyce and Pirandello were motivated by a common aesthetic attitude that made them indulge in the transformation of the genres of the novel and theatre respectively. However, one must note that, by such a confrontation of the genres, these writers did not limit themselves to a superseding act or a deconstruction, but also arrived to a problematic conservation of certain literary structures antecedent to their own innovations. Hence, portraying Joyce and Pirandello solely as revolutionary confrontations to the genre would be incomplete. A possible way of differentiating their sense of (dis)connections from tradition would be by filtering them through Jean-François Lyotard's concept of the sublime which defined the nature of the unpresentable in the post-modern domain (and hence distinguishing between the modernist and the post-modern tendencies in modern contemporary thought).

Introduzione

James Joyce e Luigi Pirandello furono motivati da un atteggiamento estetico comune che li spinse a rivisitare e trasformare radicalmente i generi del romanzo e del teatro rispettivamente. Anche se non furono influenzati a vicenda, tramite vie diverse arrivarono a trasformare e segnare delle rotture serie con la narrativa e il teatro tradizionale. Joyce e Pirandello sono ormai diventati due termini emblematici,

l'aggettivazione dei quali ('joyciano' e 'pirandelliano') è diventata un punto di riferimento per definire il distanziamento della letteratura modernista dalla tradizione letteraria. Infatti, lo *Ulysses* di Joyce e la trilogia del metateatro di Pirandello hanno creato una nuova forma di romanzo e di teatro, rispettivamente, nella scala globale dei generi letterari che evidenziano palesi segni di rottura nei confronti dei temi e delle metodologie narrative della tradizione letteraria.   Entrambi gli autori hanno lavorato ad una dinamica complessa di revisione delle strutture e delle tendenze dei generi romanzesco e teatrale, senza la quale il romanzo e il teatro moderno non sarebbero divenuti quello che sono oggi. In questo saggio, postulo l'idea però, che con la revisione del genere, Joyce e Pirandello non si limitano solo ad un superamento o ad una sovversione, ma giungono anche alla conservazione, anzi, ad una riconnessione problematica con alcune strutture letterarie operanti in precedenza nella tradizione artistico-letteraria in cui crebbero. Anche se si continua a considerare Joyce e Pirandello come gli scardinatori del romanzo e del teatro tradizionale rispettivamente, sarebbe incompleto presentarli unicamente in questo modo.

I recuperi latenti

Ulysses trasforma il genere del romanzo tramite la sostituzione del metodo narrativo tradizionale con quello mitico, il quale consisteva nella contrapposizione di momenti del poema omerico a situazioni parallele di realismo narrativo. Infatti, nei ricordi di Frank Budgen sulla genesi di *Ulysses*, e anche in una lettera di Joyce a Carlo Linati, si può evidenziare chiaramente l'intento di Joyce di recuperare sia le dimensioni del mito che quelle dell'epica nelle indicazioni sul subtesto che viene adoperato per il romanzo. Nel 1918, quando ha già scritto all'incirca un quarto del romanzo, Joyce confida a Budgen due definizioni del suo romanzo: '*My book is a modern Odyssey. Every episode in it corresponds to an adventure of Ulysses*';[1] '*My book is the epic of the human body.*'[2] Poi nella lettera del 21 settembre 1920 a Linati, Joyce scrive 'La mia intenzione è di rendere il mito *sub specie*

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1   Frank Budgen, *James Joyce and the making of* Ulysses (London, 1972), 20.
2   Ibid., 21.

temporis nostri'.[3] Nel 1923, un anno dopo la pubblicazione di *Ulysses*, T.S. Eliot recensisce il romanzo di Joyce nella rivista *The Dial* dove esprime l'idea che uno dei meriti del romanzo di Joyce era appunto quello di non essere un romanzo: '*I am not begging the question in calling* Ulysses *a "novel"'*.[4] Contrariamente al duro parere di Eliot sull'anti-romanzo, Giorgio Melchiori, nel saggio *Joyce: il mestiere dello scrittore*, ricorda come Joyce ha ripetutamente definito il suo libro 'un romanzo'. Melchiori indica che, nel 1922, *Ulysses* diventa il recupero concreto di una serie di elementi tratti dalla tradizione narrativa inglese che iniziano con la definizione che Henry Fielding aveva dato del romanzo nel 1742 nella prefazione a *Joseph Andrews* (anch'esso costruito sul modello dell'*Odissea* e del *Don Quixote* di Cervantes): '*a comic Epic-Poem in Prose*'.[5] Con questo termine Fielding sicuramente intendeva una rappresentazione della vita contemporanea sul modello dell'epica classica per creare un contrasto ironico tra gli elementi antieroici del vissuto quotidiano e lo stile solenne del genere epico.[6] Melchiori insiste che accanto alla definizione di Fielding vanno presi in considerazione la narrativa psicologica e soggettiva di Samuel Richardson (1689–1761), gli esperimenti verbali di Tobias Smollet (1721–71), e soprattutto l'influenza di Lawrence Sterne (1713–68), che con i suoi meccanismi linguistici e associativi anticipa la tecnica dello *stream of consciousness*. Melchiori dunque conferma l'idea che, tramite il recupero di un dato numero di influenze, Joyce riesce non solo a trasformare ma anche a rivisitare aspetti precedenti del genere del romanzo. Sono d'accordo con Melchiori quando postula l'idea che – attraverso il recupero di tutti questi elementi, forse a prima vista latenti in *Ulysses*, insieme al riso grottesco e la veridicità mimetica – Joyce abbia riconciliato nel suo romanzo il precedente conflitto tra realismo e simbolismo che aveva così seriamente compromesso la sopravvivenza del romanzo alla fine dell'Ottocento. Il recupero delle dimensioni epiche e comiche in *Ulysses* permette così a Joyce di riconciliare elementi precedenti del romanzo e creare simultaneamente uno stile

3   James Joyce, *Selected Letters of James Joyce*, a cura di Richard Ellmann (Londra, 1975), 270.

4   T.S. Eliot, 'Ulysses, Order and Myth', in *Selected Prose of T.S. Eliot*, a cura di Frank Kermode (Londra, 1975), 177.

5   Henry Fielding, *Joseph Andrews*, a cura di R.F. Brissenden (Londra, 1985), 25.

6   Giorgio Melchiori, *Joyce: il mestiere dello scrittore* (Torino, 1994), 117.

parodico del quotidiano che provoca la grande revisione del genere per cui è apprezzato questo romanzo.

Nonostante la revisione delle tecniche narrative che Pirandello attua con i romanzi *Il fu Mattia Pascal*, *I quaderni di Serafino Gubbio operatore*, e susseguentemente con *Uno, nessuno e centomila*, gli esempi più radicali della revisione del genere vanno ricercate nell'ambito teatrale dell'autore. La grande vocazione di Pirandello per il teatro è decisamente diversa dall'esperienza narrativa di Joyce, però cammina sui binari paralleli della revisione e del recupero. La passione di Pirandello per il teatro si manifesta precocemente – all'età di 12 anni scrive una commedia, oggi persa, intitolata *Barbaro* – però il drammaturgo approda al teatro italiano molto tardi, quando ha 43 anni, nel 1910, e rappresenta i due atti singoli *La morsa* e *Lumie di Sicilia*. Prima era molto impegnato nella composizione di romanzi e novelle, però nei suoi saggi ha già cominciato ad affrontare i problemi legati alla revisione del teatro contemporaneo. Alcuni dei primi concetti appaiono nel saggio del 1890, *La menzogna del sentimento nell'arte*, in cui osserva in maniera nostalgica che l'uomo contemporaneo ha perso quel senso dell'armonia che era così vitale al teatro greco classico, 'derivante dall'esatta concezione della vita e dell'uomo' perché 'non possiamo aver la serenità di concepire il dramma, da che noi stessi vi siamo impigliati' (SPSV:870).[7] Nel saggio 'L'azione parlata' del 1899, Pirandello allude alla sua percezione dell'autonomia dei personaggi quando critica il panorama desolante del teatro borghese in cui i drammaturghi avendo 'concepito il fatto, pensano ai personaggi, cercano i più idonei a dimostrarlo' (SPSV:1016). La revisione radicale del genere teatrale avviene in alcuni tratti della trilogia del metateatro: i personaggi dei *Sei personaggi in cerca d'autore* (1921) affrontano il regista e gli attori (nella prefazione del 1925 leggiamo che avevano già assillato l'autore);

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7   Nel corso di questo saggio tutti i riferimenti alle opere di Pirandello e Joyce si faranno con le seguenti abbreviazioni (come di consueto per tutti gli studiosi pirandelliani e joyciani): i. **SPSV** per Luigi Pirandello, *Saggi, poesie e scritti vari*, 2da ediz., a cura di Manlio Lo Vecchio Musti (Milano, 1965); ii. **MN1** per Luigi Pirandello, *Maschere nude*, a cura di Alessandro d'Amico, vol.I (Milano, 1997); iii. **SI** per Luigi Pirandello, *Pirandello: saggi e interventi*, a cura di Ferdinando Taviani (Milano, 2006); iv. **U** per James Joyce, *Ulysses*, a cura di Hans Walter Gabler con Wolfhard Steppe e Claus Melchior (London, 1989). Per le opere pirandelliane, la cifra dopo i due punti indica la pagina citata; per l'opera joyciana la cifra prima dei due punti indica il capitolo mentre quella dopo indica i paragrafi di *Ulysses*, secondo l'edizione ufficiale di Gabler-Steppe-Melchior.

in *Ciascun a suo modo* (1924) si instaura uno scontro tra l'autore, gli spettatori, e gli attori; in *Questa sera si recita a soggetto* (1929) gli attori diventano i personaggi e il regista. Però, a parte tutte queste novità, non bisogna dimenticare che nel suo teatro Pirandello recupera la maschera; è un recupero che investe la stessa natura della sua poetica perché legato al concetto dell'umorismo e della dialettica conflittuale tra Vita e Forma. La maschera pirandelliana trova uno dei suoi sviluppi più alti nei *Sei personaggi* quando, nelle didascalie della versione del 1925, Pirandello distingue i personaggi dagli attori e suggerisce che quelli portino in scena delle maschere leggere a significare la fissità della loro condizione: 'Le maschere ajuteranno a dare l'impressione della figura costruita per arte e fissata ciascuna immutabilmente nell'espressione del proprio sentimento fondamentale' (MN1:54).

Pirandello subisce anche l'influenza di drammaturghi che erano anch'essi una reazione al teatro borghese di fine Ottocento. Dopo essere rimasto indifferente alle proposte sulla rappresentazione della tragedia nel teatro di D'Annunzio e Ibsen, Pirandello, ancora saggista e romanziere, assiste alla rottura dello spazio teatrale provocata dai futuristi Filippo Tommaso Marinetti, Emilio Settimelli, e Bruno Corra. Il teatro futurista stava reagendo alla prevedibilità pedantica del teatro borghese e di conseguenza proponeva il teatro alogico che era molto denso, costituito da tanti frammenti incoerenti che venivano recitati da bambole elettriche. Pirandello rimane distante da questo movimento iconoclasta, però ne recupera l'idea fondamentale dello spazio metateatrale, come anche la frantumazione dell'assolutezza dell'opera teatrale presentata in scena. Infatti, sarà Marinetti stesso a scrivere nella rivista d'arte futurista *Noi* nel 1924 – l'anno della prima di *Ciascuno a suo modo* – che 'Il pubblico che applaude ora il nuovo dramma di Pirandello applaude anche la sua trovata futurista che consiste nel far partecipare il pubblico all'azione del dramma. Il pubblico si ricordi che questa trovata è dovuta ai Futuristi.'[8] Un altro recupero attuato da Pirandello deriva dalla rivoluzione del teatro grottesco italiano, la cui attività comincia il 26 maggio del 1916 al Teatro Argentina con la prima della *Maschera e il volto* di Luigi Chiarelli. Questa commedia segna una

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8   Filippo Tommaso Marinetti, 'Dopo il teatro sintetico e il teatro a sorpresa, noi inventiamo il teatro antipsicologico astratto di puri elementi e il teatro tattile', in *Teoria e invenzione futurista*, a cura di Luciano De Maria (Milano, 1996), 170–1. Originariamente pubblicato nella rivista d'arte futurista *Noi* (I, II serie, marzo 1924).

svolta importante nel teatro italiano che coinvolge anche Rosso di San Secondo, Luigi Antonelli, ed Enrico Cavacchioli, i quali contribuiscono a rimodellare l'azione scenica come una proiezione della psicologia e delle passioni dei personaggi, costringendoli in questo modo a perdere la loro natura realistica e trasformandoli in dei personaggi-fantoccio. Le opere del teatro grottesco avevano molte affinità con i concetti dell'umorismo e del riso sviluppati da Pirandello nei romanzi e nelle novelle, i quali non avevano ancora trovato un'espressione eloquente nel teatro. La fusione pirandelliana tra la tragedia e il riso grottesco, con l'esplicito riferimento al suo umorismo, è stata espressa eloquentemente nel saggio *Ironia* del 1920 in cui Pirandello allude a quando 'si sia superato col riso il tragico attraverso il tragico stesso, scoprendo tutto il ridicolo del serio, e perciò anche il serio del ridicolo' (SI:1083).

Le rotture radicali con la tradizione tramite l'impresentabile

La revisione del genere attuata nelle opere di Joyce e Pirandello sembra precedere l'idea poststrutturalista che identifica le modifiche e gli spostamenti degli elementi costitutivi dell'*episteme* moderna. È Foucault infatti che intuisce che 'L'intera episteme moderna [...] era legata alla scomparsa del Discorso e del suo regno monotono, allo slittamento del linguaggio sul versante dell'oggettività ed alla sua ricomparsa molteplice.'[9] Joyce e Pirandello sembrano agire in maniera parallela a questo fenomeno perché interrogano, relativizzano e dislocano la mimesi, la quale per essi altro non è che il riflesso di un linguaggio (o più linguaggi) mosso da una realtà sempre relativa e molteplice. Dunque il senso 'epistemico' del procedere joyciano e pirandelliano potrebbe consistere nello destabilizzare il Discorso – inteso come *discourse,* cioè le categorie filosofiche come la verità, la realtà, l'identità, ecc. – e di mostrarne l'indeterminatezza di fronte alla rappresentazione.

Un modo per concettualizzare meglio le rotture radicali di Joyce e Pirandello dalle forme teatrali e romanzesche, può essere di vederle tramite quello che Jean-François Lyotard, ricorrendo al concetto del

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9   Michel Foucault, *Le parole e le cose*, traduzione italiana di Emilio Panaitescu (Milano, 1985), 412.

sublime, individua come il desiderio di presentare l'impresentabile e che chiama il postmoderno (o definisce come discrimine tra modernismo e postmodernismo). Vorrei specificare che gli argomenti di Lyotard mi servono solo come punto di partenza di un argomento che lo lega all'operazione di svecchiamento del linguaggio e delle convenzioni generiche attuate da Joyce e Pirandello. Questa distinzione è un modo che mi permette di capire una differenza nel tipo e nelle forme di sperimentazione condotte dai due autori, piuttosto che una tendenza critica formalizzabile separatamente.

Il saggio del 1982 'Answering the Question: What is Postmodernism?',[10] in cui Lyotard associa Joyce e Proust con l'impresentabile, fornisce un reagente per capire meglio la frantumazione della mimesi nelle opere di Joyce e Pirandello. Per Lyotard '*The works of Proust and Joyce both allude to something that does not allow itself be made present.*'[11] Questa allusione a qualcosa che non si lascia rappresentare, secondo Lyotard, è un *modus operandi* essenziale degli scrittori che appartengono all'estetica del sublime. Lyotard dichiara che '*Joyce makes us discern the unpresentable in the writing itself, in the signifier*', e cioè nella lingua. Joyce tramite la lingua, e anche Pirandello tramite l'azione scenica del metateatro, hanno tentato di discernere e rappresentare una realtà impresentabile. Le idee di Lyotard sul senso dell'impresentabile in Joyce si possono applicare alle tendenze analoghe di Pirandello verso l'impresentabile. Il caso più evidente è il brano dove Lyotard parla delle trasformazioni estetiche di Joyce: '*The whole range of available narrative and even stylistic operators is put into play without concern for the unity of the whole, and new operators are tried.*'[12] Ho già accennato in questo saggio come Joyce attua una trasformazione del romanzo tramite la sua sperimentazione con nuovi meccanismi narrativi, un'attività che anche Pirandello svolge continuamente nel metateatro. Si può anche intendere la '*unity of the whole*', a cui si riferisce Lyotard, come il modo tradizionale di concepire il romanzo o anche il teatro, che Joyce e Pirandello trasformano inserendovi il sentimento dell'impresentabile.

10 Jean-François Lyotard, 'Answering the question: What is Postmodernism?', traduzione inglese di Régis Durand, in *The Postmodern Condition: A Report on Knowledge*, traduzione inglese di Geoff Bennington e Brian Massumi (Minneapolis, 1984), 80.
11 Lyotard.
12 Ibid.

Nel caso di Joyce, Lyotard spiega come la morfologia e il lessico del linguaggio letterario non vengono più accettati passivamente ma sono percepiti come limiti all'espressione dell'impresentabile: '*The grammar and vocabulary of literary language are not accepted as given; rather, they appear as academic forms, as rituals originating in piety (as Nietzsche said) which prevent the unpresentable from being put forward.*'[13] Un esempio lampante in *Ulysses* in cui scompare un aspetto importante del linguaggio letterario, la punteggiatura, è il lungo soliloquio interiore e flusso di coscienza semicosciente di Molly nel capitolo 18 'Penelope'. Nel caso di Pirandello, sono l'unità scenica tradizionale e i vari elementi del teatro borghese che ostacolano la sua esigenza dell'espressione dell'impresentabile, infatti vengono screditati nettamente dallo spazio metateatrale, dall'autonomia dei personaggi, e dall'umorismo pirandelliano.

Nel seguente schema si confrontano alcuni elementi dell'impresentabile in Joyce e in Pirandello alla luce della distinzione di Lyotard tra l'impresentabile moderno e quello postmoderno:

	L'estetica del sublime	Il significante	Caratteristiche
Pirandello	L'impresentabile moderno	I meccanismi metateatrali della trilogia	La nostalgia di un centro di stabilità ancora vincolata alla scena
Joyce	L'impresentabile postmoderno	I linguaggi di *Ulysses*	Un'apoteosi dell' impresentabile

Lyotard spiega che l'estetica moderna è un'estetica del sublime, però è caratterizzata dall'elemento nostalgico, cioè concepisce l'impresentabile negli elementi che non sono presenti, mentre continua ad offrire ai suoi lettori o spettatori ancora il piacere o la consolazione della forma artistica: '*Modern aesthetics is an aesthetic of the sublime, though a nostalgic one. It allows the unpresentable to be put forward only as the missing contents; but the form, because of its recognizable consistency, continues to offer the reader or viewer matter for solace and pleasure.*'[14] Il senso dell'impresentabile espresso da Pirandello

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13   Ibid, 80–1.
14   Ibid, 81.

sembra appartenere a questa prima distinzione 'moderna' perché rimane vincolato alla scena benché smonti alcune strutture tradizionali del teatro. Il metateatro pirandelliano rivela tanto l'impresentabile quanto la nostalgia di un centro o della stabilità scenica che possa essere oggetto della mimesi. In questo saggio si è già visto che Peter Szondi, nel saggio 'Theory of the Modern Drama', propone che nei *Sei personaggi* Pirandello non riesce ad annientare completamente la coesione drammatica del genere teatrale.[15] Anche Wladimir Krysinski nel *Paradigma inquieto* ribadisce il fatto che, nonostante che Pirandello rappresenti una decostruzione di codici teatrali e rappresentativi, egli non dà vita a forme teatrali radicalmente nuove, come avevano fatto Joyce e Artaud.[16]

La natura dell'impresentabile in Joyce è d'altro canto caratterizzata da elementi postmoderni. *Ulysses* è un romanzo modernista del 1922 in cui l'elemento nostalgico della forma tradizionale del romanzo è quasi assente perché Joyce nega spesso al lettore il piacere delle forme – quel '*solace of good forms, the consensus of a taste which would make it possible to share collectively the nostalgia for the unattainable*', per usare le parole di Lyotard.[17] Anche il critico joyciano Andrew Gibson dichiara che '*Joyce's is not a nostalgic and backward-looking aesthetics of presence which aims to celebrate a bygone culture by definitively 'preserving' it*'.[18] Inoltre, questi momenti vengono creati da Joyce intenzionalmente per accrescere il senso dell'impresentabile, sono appunto '*new presentations, not in order to enjoy them but in order to impart a stronger sense of the unpresentable*'.[19] Sembra che Joyce giubili dell'abilità di concepire nuove immagini e concetti, lasciando alla forma stessa il compito di metterli in rilievo, rifiutandosi di aderire alle forme riconoscibili del genere o della tradizione. Alcuni esempi di capitoli interi di *Ulysses* che negano al lettore impreparato il piacere di un'estetica riconoscibile e familiare sono i già menzionati capitolo 17 'Ithaca' e il capitolo 18 'Penelope'. Dunque a differenza dell'impresentabile postmoderno di Joyce, l'impresentabile moderno

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15   Peter Szondi, *Theory of Modern Drama*, edited by Michel Hays (Cambridge, 1987), 80.
16   Wladimir Krysinski, *Il Paradigma Inquieto*, a cura di Corrado Donati (Napoli–Roma, 1988), 57–8.
17   Lyotard, 81.
18   Andrew Gibson, *Towards a Postmodern Theory of Narrative* (Edinburgo, 1996), 172.
19   Lyotard, 81.

del metateatro di Pirandello non cerca nelle sue rappresentazioni metateatrali l'apoteosi dell'impresentabile tramite l'apertura infinita delle possibilità di significato del testo teatrale. Robert S. Dombroski conferma questo punto quando scrive sulla metafora della follia in *Enrico IV* e rileva che non c'è in Pirandello 'un qualche esempio di anarchia verbale o la tendenza a creare gli effetti allitterativi o ritmici dell'eloquio schizofrenico, che noi spesso incontriamo nelle opere di Joyce, Beckett e Ionesco'.[20] Un'altra conferma in questa direzione arriva da Andrew Gibson che sostiene che '*In the later parts of Ulysses and Finnegans Wake, Joyce produces a brawling, demotic cacophony of voices whilst simultaneously conferring an almost hieroglyphic inscrutability upon the discourse in which he does so.*'[21] Infatti in *Ulysses* la dimensione della non linearità della poetica di Joyce è rappresentata sinteticamente nella frase '*from the sublime to the ridiculous is just a step*' (U15:2401–2). Ovviamente, non intendo dire che l'impresentabile nelle ultime opere joyciane sia una strategia costante e coerente, infatti Joyce è anche noto per la sua arte di fare precipitare la narrazione da momenti alti e sublimi a momenti comici tipici del quotidiano, dell'assurdo e dell'ordinario tramite forze gravitazionali caratterizzate dalla follia. Nella trilogia del metateatro Pirandello allude in maniera coerente e costante all'impresentabile per mezzo di situazioni assurde e paradossi esistenziali, ma non per farne sentir meglio la presenza. Il sentimento di fondo dell'impresentabile pirandelliano è sempre nostalgico di un'armonia epistemica ormai perduta, come i sei personaggi che desiderano tanto farsi rappresentare da una compagnia teatrale. Il senso dell'impresentabile pirandelliano serve a rimpiangere la presentabilità della verità oggettiva irrevocabilmente scissa e non ad oscillare tra un'estetica del sublime e quella del ridicolo. Non credo che sia l'intenzione di Pirandello presentare un testo teatrale che abbia l'unico scopo di aprirsi a più possibilità di interpretazioni e voci, e magari compiacersene proprio come fa Joyce con *Ulysses*, un romanzo anticonvenzionale che descrive Bloom, Stephen o Dublino ai lettori ma che offre tante nuove possibilità di narrazione che si aprono al romanzo nel Novecento.

20   Vedi Robert S. Dombroski, 'Follia come metafora in Enrico IV', in *Pirandello e il Teatro*, a cura di Enzo Lauretta, Atti del Convegno Nazionale di Studi Pirandelliani 1992 (Milano, 1993), 351.
21   Gibson, 173.

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The Eurovision Song Contest within Formal Educational Learning Contexts: A Critical Multimodal Interpretation of Possible Inter-Disciplinary Connections

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Abstract: The Eurovision Song Contest [ESC] is often viewed by many as pure entertainment followed annually by millions around the globe and by over 95% of the Maltese population. This paper aims to move on to deeper levels and to discuss how the songs of this popular cult can be viewed as interdisciplinary resources which eventually serve as effective pedagogical tools within formal educational contexts and classrooms.

Adopting a socio-semiotic multimodal approach, an original multimodal framework[1] is presented through which Eurovision songs are analysed before they are connected to these educational contexts to serve as pedagogical tools.

Referring to a socio-constructivist epistemology, a practical example taken from the ongoing 'Learning through the Eurovision: a multimodal research project'[2] is discussed where these songs are viewed as inter-disciplinary tools made up of socio-semiotic elements which, when viewed as connected, can facilitate learning and teaching.

Keywords: Foreign language teaching, multimodality, Eurovision Song Contest

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1   G. Cremona, 'Cultural representations of Germany in the Maltese German as a Foreign Language (GFL) learning context. A critical interpretation', Ph.D. thesis (UCL Institute of Education, 2015).
2   Id., 'Creating student centred language learning environments through the innovative multimodal pedagogical use of Eurovision Music', *Conference Proceedings of the International Conference The Future of Education*, 7th edn. (Florence, 2017), 240–4.

Connecting songs to formal educational contexts

Students learn better and their motivation in class increases[3] if what they are learning is connected to elements which make sense to them even out of the classroom context and if the learning is 'integrated into contexts in which the language is meaningful and useful, such as in everyday or playful situations'.[4]

Since my early teaching days, this line of thought has continuously driven me – particularly during lesson-planning stages – to look for popular resources valued by my students, i.e. my target audience in the different classrooms. Each time I meet new classes, I compile a list of resources beforehand which Cakir[5] describes as 'triggers of motivation, interest, enjoyment, and emotions'. This is a process I repeat each time I start working with new students. Once I get the grasp of the particular resources students in a particular classroom enjoy using even during their free time, I embark on a critical venture which tries to connect these out-of-classroom elements and resources to the classroom reality. My priority as a teacher has always been and still is to think of all the possible and available triggers leading to student motivation in class and constantly evaluate alternatives and ways through which the favourite out-of-classroom resources of a particular student cohort could be connected effectively in my lesson plans to have students pedagogically benefit through them and their use.

My 14-year [ongoing] teaching experience constantly confirms Miranda's[6] suggestion that one of the most popular out-of-classroom triggers which predominates during social events such as concerts, sporting events, parties, dates, dances, ceremonies, rallies, and dinners is music. My experience in class similarly confirms Ross's[7] statement

3   M.R Young, 'The motivational effects of the classroom environment in facilitating self-regulated learning', *Journal of Marketing Education*, April 2014, 25–40.

4   European Commission, *Language Learning at Pre-Primary School Level: Making it Efficient and Sustainable. A Policy Handbook* (Brussels, 2011). Available online: http://ec.europa.eu/languages/policy/language-policy/documents/earlylanguage-learning- handbook_en.pdf

5   A. Cakir, 'Musical activities for young learners of EFL', *The Internet TESL Journal*, 5 (11) (1999). Retrieved from: http://iteslj.org/Lessons/Cakir-MusicalActivities.html (accessed 07 July 2017).

6   D. Miranda, 'The role of music in adolescent development: much more than the same old song', *International Journal of Adolescence and Youth*, Vol. 18 (1) (2013), 5–22.

7   J. Ross, 'ESL Listening Comprehension: Practical Guidelines for Teachers', *The Internet TESL Journal*, 12 (2) (2006). Retrieved from: http://iteslj.org/Techniques/Ross-

that songs are one trigger which follows students wherever they are, at home, while they travel, at school, and during their free time.

Kruse[8] identifies different types of songs which one can consider importing in class. These includes a wide range of songs such as classical, oldies, pop, and alternative hip-hop. Through all these genres and styles, variety can predominate in classrooms and other pedagogical contexts.

Connecting the Eurovision Song Contest to formal educational contexts: the rational of a pedagogical project

Throughout my teaching career, different students have indicated they prefer different types of music. Notwithstanding the variety of musical preferences, teaching within the Maltese context has indicated that there tends to be a common trend which constantly manifests itself through what students say. Students in Malta are keen followers of the Eurovision Song Contest. Students I have encountered can be broadly categorized in two different categories: those who love the contest, its songs, and its content and the others who loathe it but still find time to comment – at times even sarcastically – about this massive cult followed by millions around the globe.[9] This situation which I observe in classrooms tends to be confirmed and strengthened by official statistics stating that over 95% of the Maltese population follow the Eurovision Song Contest annually.[10]

The constant annual recurrence of this trend, motivated me to launch the 'Learning through the Eurovision: a multimodal research project'.[11] As I have explained at length elsewhere, the aim of this project is to

ListeningComprehension.html (accessed 7 July 2017).

8   D. Kruse, 'Being Hip-Hop'; javascript:__doLinkPostBack mdb~~a9h%7C%7Cjdb~~a9h jnh%7C%7Css~~JN%20%22General%20Music%20Today%22%7C%7Csl~~jh, Vol. 30, Issue 1, 53–8.

9   P.T. Jordan, 'The Eurovision Song Contest: Nation Branding and Nation Building in Estonia and Ukraine', Ph.D. thesis (University of Glasgow, 2011).

10   PBS, 'Għandi xi ngħid', Radju Malta, 4 February 2017, available online: TVM.com.mt. https://www.tvm.com.mt/mt/radio-programmes/ghandi-xi-nghid-3/

11   Newspoint, 'Learning through the Eurovision: A multimodal research project', University of Malta, 2016 [online], https://www.um.edu.mt/newspoint/news/features/2016/05/teachingthroughtheeurovisionamultimodalproject

work with teachers in primary and secondary schools. Together with the teachers – who freely show interest to participate in the project – we select a syllabus topic from those set as curricular topics of the particular scholastic grade. Then, together we design a set of lesson plans through which the selected curricular topic(s) may be taught.[12]

Therefore, in each case, Eurovision songs and Eurovision-related material, such as music videos of participating songs, interviews with singers, and visuals such as photos and posters and others, are used and adapted to serve as resources through which the environment where the learning is conducted benefits, becoming more student-centred and increasing motivation in students.

Semiotic connections: Adopting an original multimodal framework

It is important that, before importing any song and/or ESC-related available resources in class, teachers should chosen their material systematically, adopting the original MIRROR Framework,[13] which includes the following steps:

Monitoring available ESC songs and choosing the actual songs to use in class from all those which have participated in one of the past editions of the ESC;

Initial descriptive interpretation (per individual song focusing on the message of the text, i.e. lyrics);

Representational multimodal semiotic interpretation (per individual text, i.e. this includes a deeper analysis of the song. Among others this step analyses the content of the song, the linguistic level of the lyrics, and the style, genre, and arrangement of music);

Represented social interpretation (per individual text focusing on socio-cultural messages implied);

Overview of the themes observed; later comparing individual trends with common trends derived from texts as a whole (where possible);

Reorganizing and presenting the text according to the needs of the students in the particular learning context.

The framework therefore connects an initial descriptive semi-

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12   Cremona, 'Creating student centred language learning environments', 241.
13   See footnote 1 above.

otic interpretation to deeper semiotic levels.[14] Thus ESC songs and the other ESC-related material are treated and viewed as resources made up of connected modes, i.e. channels through which messages may be transmitted. These modes include embodied and disembodied modes which Norris[15] defines as:

Embodied modes classify language with other modes like gesture, gaze, or posture which 'can play a *superordinate* or an *equal* role to the mode of language in interaction, and therefore, these modes are not merely embellishments to language'. On the other hand, **disembodied modes** 'include, among others, music, print, layout, colour, clothes, and any other mode deriving from the setting or material world where the interaction is happening. These too can take a superordinate role in interaction and at times even 'overrule' embodied modes.

Socio-Semiotic connections

Furthermore, the framework also connects a social aspect to the interpretation of the songs. Each song is viewed as an amalgamation of social features. Before including the songs or ESC-related material in the lesson plan, as early as the lesson planning stage, together with teachers, we ask the question: 'What particular social feature(s) is included/referred to in this particular ESC-related text?'

Connecting students to the texts: The socio-constructivist epistemology

Having identified the modes [i.e. channels through which messages may be passed] and the social features presented in each ESC song, the next step is to find ways through which this socio-semiotic amalgamation may be connected to the actual topic the teacher aims to teach the particular classroom. In other words, before starting the

14   G. Kress, *Multimodality: a social semiotic approach to contemporary communication* (London, 2010).
15   S. Norris, *Analyzing multimodal interaction: a methodological framework* (London, 2004).

design of the lesson plan, one needs to familiarize oneself with the particular ESC songs and material available and only then critically evaluate whether it can be imported in class or not.

Once a song or ESC-related material is viewed as having pedagogical potential for the particular classroom, together with teachers, we initiate a process exploring ways how the particular song or ESC-related material may be used to connect the particular students with the particular topic the teacher intends to teach. To do this, the 'Learning through the Eurovision: a multimodal research project' follows a constructivist epistemology.

This views students as beings who can assume active roles when presented with texts. This idea resonates with the constructivist view that learning is viewed as an active process happening when learners engage with and become involved in appropriate cognitive processing. These processes lead to the construction of cognitive representations.[16] This involves intricate processes happening each time students encounter texts used to teach the subject. The students

turn [a] text into a situation model in the reader's mind. Even constructing a decent representation of the text itself – a textbase – requires active processing, for texts are never fully explicit. The passive reader, who does not perform this required activity, will end up with an inadequate textbase.[17]

Therefore, these cognitive constructivist views suggest that the developmental processes of students can change over time and teachers can improve their conduct if they make careful observations about the way students obtain knowledge and interpret shared information through normal developmental sequences.[18] These views sustain that students are not always passive, but instead can actually and eventually become active consumers able to connect with the ideas being presented in class, process these ideas, and actively react to them. ljs

With all these mental processes, the socio-cognitive aspect suggesting that 'thought has a social external origin'[19] sheds further light

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16   R.E. Mayer, *Multimedia learning* (New York, 2001).
17   Kintsch in Tobias and Duffy, 'Constructivist Instruction: Success or Failure?', *Educational Technology and Society*, 13 (3) 2009, 281–4.
18   J. Piaget, *The moral judgement of the child* (New York, 1964).
19   J.P. Lantolf and W. Frawley, 'Oral-proficiency testing: A critical analysis', *The Modern*

about student activity. Applying the terminology of Capocchi Rigiero,[20] what is missing above (i.e. in the cognitive constructivist view) is a clear mention of the effects of the interactions between members of the learning community through which meanings (i.e. in this case the way students react to ideas included and derived from ESC songs or ESC-related materials) can be negotiated. Block[21] defines student activity as involving a critical process through which students form and consume the material transmitted in class both through factors lying inside the learner – namely the inner psychological side – as well as other factors resulting from interactions between different individuals in the classroom and/or in their environment. Seen in this light, the idea of texts and their function is directed to view:

a text [as] a sociological event, a semiotic encounter through which the meanings that constitute the social system are exchanged. The individual member is, by virtue of his membership, a 'meaner', one who means. By his acts of meaning, and those of other individual 'meaners', social reality is created, maintained in good order, and continuously shaped and modified.[22]

While acknowledging the benefits of the socio-cognitive (i.e. constructivist) epistemology, I also feel that

the general world of human experience, and the social and educational world, is not an objective structure but a constructed, organic interaction of people organized and shaped by their culture, status and gender.[23]

Keeping this in mind, while active students should combine the cognitive and social relevant incoming information and relevant prior knowledge, they should also debate the concept of 'relevance' and

Language Journal, 69 (4), 1985), 337–45.

20   M.A. Capocchi Ribeiro, *Consciousness Raising Age and Motivation. A case study* (Leicester, 2000).

21   D. Block, 'Review of Rod Ellis's Task-based Language Learning and Teaching', *Language Learning Journal*, 29 (1) (2004), 18–23.

22   T.A. van Dijk, 'Ideology and discourse analysis', *Journal of Political Ideologies*, 11 (2), (2006), 115–40.

23   M. Watts and Z. Jofili, 'Changing teachers' thinking through critical constructivism and critical action research', *Teachers and Teaching: theory and practice*, 1 (2), (1995), 213–27.

probably redefine it as a regime of truth.[24] Among other things, they should pose questions about what is presented in ESC-related songs and that frequently presented as 'relevant' in the classroom context and beyond. A second complementary question should focus on who decides what is 'relevant' and 'irrelevant' in what is being presented in the context.

Connecting ESC-music to curricular activities: A case in point

In the following sections, I will present one example to show how ESC materials were connected to the classroom and used as pedagogical tools following the above-mentioned MIRROR theoretical framework. Owing to word limit constraints, I will only present and focus on just one (of many possible examples) lesson presented as part of the Learning through the Eurovision Project.

Part of the syllabus of Year 4 (8-year-old boys and girls) classrooms in Malta stipulates that students should learn how to write a narrative using the past tense. After two introductory lessons where the teacher introduced and reinforced the concept of the past tense, as a last activity in order to motivate students to write a narrative using the past tense, one teacher opted to use the song called *Tomorrow* sung by Gianluca Bezzina who represented Malta in 2013 and obtained a prestigious eighth place. The teacher specifically intended to use this song with a class in which students clearly and frequently stated that they hate writing but love drawing.

Through the application of the MIRROR framework, after this initial interpretation of the song, the lesson-planning phase identified a number of modes included in the music video which could pedagogically help students reach the aim of the lesson, i.e. writing a narrative using the past tense. The teacher thought of using *context* as a mode and opted to start the lesson using an *image* (i.e. a photo) of Gianluca Bezzina who is very popular with the younger generation in Malta. The lesson started with a guessing game where students through the selected photos of a nose, a pair of eyes, and a mouth had to guess the mysterious singer, i.e. Gianluca. The teacher then moved on to play the *song* and showed

24   M. Foucault, *The care of the self*, trans. R. Hurley (Harmondsworth, 1984).

students the music video (i.e. *moving visuals*) of the song. The narrative (i.e. *lyrics*) presents the love story between Jeremy who works in IT and the girl he loves but whom unfortunately he never manages to meet even though they visit the same places, pass through the same experiences, and find themselves in the same locations.

After a first listening, the teacher asked students to work in groups and start formulating brief notes about what happened in the narrated love story. After this, she invited students to form groups of four and to summarize the content of the song by expressing the message of the song through four drawings. This was done in a race-against-time since students had only five minutes to draw these drawings.

Once they finished these drawings, the students were asked to formulate and write sentences in the past tense through which they could narrate what happened to Jeremy and his crush. Per drawing they were requested to write 4–5 sentences. By the end of the 15 minutes assigned for writing, the students ended up with a short paragraph summarizing the story narrated in the song.

A third final critical step, asked students to identify a number of social elements included in the love story. In this the teacher served as a guide since she could identify these social features through the third step of the MIRROR framework. Once the students had finished their writing, they were encouraged to discuss and evaluate the relationship of Jeremy and his girlfriend in the light of these social aspects and to express themselves about the behaviour of the protagonists, i.e. also (simultaneously) using the past tense. This discussion included points about the race of the two lovers, their social backgrounds, and gender stereotypes which featured predominantly in the music video and through the lyrics of the song.

Conclusion

In brief, the outline of the Learning through the Eurovision Project discussed in this paper should highlight the idea that the success of this project is based on the skill and ability of finding connections. At times these connections are so obvious that they are taken for granted. As should be clear from the discussion presented above. the project, at

its crux, connects:
- Theoretical epistemologies to practical situations;
- Out of classroom resources to curricular topics;
- Initial interpretations of ESC related texts and songs to deeper interpretations;
- Semiotic elements (i.e. modes) to Social elements.

Through the discussion presented in the paper, now that these connections have been identified and discussed, one could – as a main conclusion – propose a further step. The popularity of the Learning through the Eurovision Project around Malta and the invitations it received from a great number of educational contexts, including schools and universities around Europe (such as Sweden, Germany, Italy, Ukraine, and Switzerland), urges me to propose a follow-up step.

Now that, through this paper, I have set clear the way the project amalgamates connections, a follow up-step should and could also propose that other educators and teachers critically follow these steps and, through the suggestions proposed by this paper, initiate projects not only related to [Eurovision] music but also to other resources which students enjoy during their free time and out of class. Similar connections may facilitate other educational projects linked to sports, dance, animals, fashion, the culinary world, and a thousand other possible areas.

Through this paper the example is set … hopefully students will get what they truly deserve.

A Grounded Theory Approach Focused on a Holistic Supply Chain Integration Management Approach

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Abstract: This research sustains the current dialogue and latest literature on supply chain management (SCM), triple bottom line sustainability, and technology deployment, by highlighting the importance for SMEs to undertake supply chain integration (SCI) initiatives to achieve competitive advantage. Nowadays, it is pivotal for all actors within the manufacturing sector, to deploy a SC strategic approach, together with its business and manufacturing strategies, to compete effectively across the globe instead of working alone. The inductively generated theory, based on a grounded theory methodology, highlights that an integrated management and leadership approach, based on a set of strategic measures and a set of best practices, as referred by the conceptual framework, is the way forward, since such a stance is needed to serve as a driver and as a binding force of all SC actors to form up a SCI holistic approach to achieve outstanding competitive performance.

Keywords: Supply chain management, technology, leadership, management and grounded theory

Maltese SMEs (Small and Medium Enterprises), like other SMEs worldwide, are the engine of the economy for their contribution to innovation, employment provision, and the GDP.[1] In spite of such SMEs potential, a thorough literature review

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[1]   J. Curran & R.A. Blackburn, *Researching the small enterprise* (London, 2001); M. Demirbag, S.C.L. Koh, E. Tatoglu, & S. Zaim, 'TQM and market orientation's impact on SMEs' performance', *Industrial Management & Data Systems*, 106(8) (2006), 1206–28; Ernst & Young, 'Market gaps in access to finance and the feasibility of new financing

shows there are few studies covering research based on the supply chain operations within SMEs,[2] especially in Malta.

Practitioners and academics from different disciplines are interested to pursue a holistic SCI management approach to compete around the globe,[3] since the current businesses environment is no longer being based on autonomous entities but as supply chains.[4]

This paper is organized in various sections in the following order: the research objective, question and significance; a review of the past literature to contextualize the research; the presentation of various literature gaps; the research methodology; the research process and findings' highlights; the research discussion; and the research summary and conclusions, which also includes the contributions, propositions, limitations and suggestions for future research.

Research objective, significance, and question through a Grounded Theory Methodology (GTM)

This research aims to explore the role of SCI for SMEs as SC actors within the Maltese manufacturing. The scope is to generate a substantive theory to represent the reality of this phenomenon from practice. The **research significance** is based on addressing the various

instruments in the EU addressing the credit needs of Maltese businesses', *Malta Business Bureau* (Malta, 2013).

2 Curran & Blackburn; E. Bayraktar, M.S.C. Demirbag, K.S.C. Lenny, E. Tatoglu, & H. Zaim, 'A causal analysis of the impact of information systems and supply chain management practices on operational performance: Evidence from manufacturing SMEs in Turkey', *International Journal of Production Economics*, 122 (2009), 133–49.

3 Bayraktar; B.B. Flynn, B. Huo, & X. Zhao, 'The impact of supply chain integration on performance: A contingency and configuration approach', *Journal of Operations Management*, 28 (2010), 58–71; C.F. Cheung, C.M. Cheung, & S.K. Kwok, 'A Knowledge-based Customization System for Supply Chain Integration', *Expert Systems with Applications*, 39 (2012), 3906–24.

4 M. Binder & B.T. Clegg, 'A conceptual framework for enterprise management', *International. Journal of Production Research*, 44 (18/19) (2006), 3813–29; Id., 'Enterprise management: a new frontier for organisations', *International Journal of Production Economics*, 106(2) (2007), 409–30; D. Ketchen & G.T. Hult, 'Bridging organization theory and supply chain management: The case of best value supply chains', *Journal of Operations Management*, 25(2) (2007), 573−80; B.T. Clegg & Y. Wan, 'ERP Systems and Enterprise Management Trends: a Contingency Model for the Enterprization of Operations', *International Journal of Operations and Production Management*, 33(11/12) (2013), 1458–89.

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literature gaps associated with the phenomenon and also to employ a GT research strategy to meet the gaps referred by Binder & Edwards[5] in particular, to establish solid and rigorous research using the GTM within operations management (OM) focused on SCM.

The **research question** that guides the study and supporting objectives is the following two-part question. First, which are the **characteristics** needed to achieve SCI within SMEs in Maltese manufacturing? Second, which are the **key factors** that constitute SCI that promotes competitive performance within SMEs in Maltese manufacturing?

A priori literature review: The manufacturing SC principles based on SCI

A manufacturing SC is not about production but covers all the value-chain activities of the focal firm within a context to meet the high-value manufacturing (HVM) sustainability challenges,[6] such as R&D, innovation, production, distribution, advertising, and customer support. Such a management approach is referred to as the virtual enterprise (VE) concept[7] or the enterprise management concept.[8] The term HVM refers to the application of leading-edge technical knowledge and expertise for the creation of products, production processes, and associated services, to bring sustainable growth and high economic value.[9] Malta is also focussing on value-added manufacturing, in line with HVM practices, being a knowledge-based economy.[10]

5   M. Binder & J.S. Edwards, 'Using grounded theory method for theory building in operations management research. A study on inter-firm relationship governance', *International Journal of Operations & Production Management,* 30(3), (2010), 232–59.

6   F. Livesey, *Defining High Value Manufacturing* (Cambridge, 2006); Bayraktar.

7   Livesey; V. Martinez, A. Neely, R. Guanjie, & A. Smart, 'HVM – Delivering on Promise', *Advanced Institute of Management Research* (London, 2008).

8   Binder & Clegg, 'A conceptual framework'; Binder & Clegg, 'Enterprise management'; B. Clegg, S. Chandler, M. Binder, & J. Edwards, 'Governing inter-organizational R&D supplier collaborations: a study at Jaguar Land Rover', *Production Planning & Control* (2012), 1–19, iFirst; Clegg & Wan.

9   Technology Strategy Board, *Progressive for future manufacturing*, http://www.ifm.eng.cam. ac.uk/uploads/News/2012/23Feb (accessed 23 February 2012)

10 Ernst & Young (2013); WEF, *The Global Competitiveness Report 2014–2015*, http://www3.weforum. org/docs/WEF_GlobalCompetitivenessReport_2014-15.pdf (accessed 11 September 2014).

From a SCM perspective, this VE paradigm shift has been referred to as a move from vertical integration to virtual integration,[11] based on unity of efforts of all SC actors up to the end customer, to optimize the use of all core and distributed organizational resources to form a single holistic SC, based on SCI initiatives, with a continuum of variation from short-term adversarial to long-term relationships.[12]

To achieve SCM, there is the need of SCI both within and outside the focal firm.[13]

The SCI effectiveness is dependent on the context of the supply chain.[14]

Such a strategic stance within HVM is attributed to lean and agile manufacturing, to focus on improvement and cost-effective mechanisms, not only to eliminate waste but to promote agility, flexibility, adaptability, responsiveness, and quality in all operations and linkages between SC actors, such as JIT practices.[15] Such an agile paradigm is enabled by agile information systems for improved lead times at a minimum total cost.[16]

11   C.K. Prahalad & G. Hamel, 'Strategy as a field of study: why search for a new paradigm', *Strategic Management Journal*, 15, special issue (1994), 5–16; D. Power, Supply chain management integration and implementation: a literature review, *Supply Chain Management: An International Journal,* 10(4), (2005), 252–63; A. Gunasekaran, K. Lai, & T.C.E. Cheng, 'Responsive supply chain: A competitive strategy in a networked economy', *Omega*, 36, (2008), 549–64.

12   J.F. Kros, M. Falasca, & S.S. Nadler, 'Impact of just-in-time inventory systems on OEM suppliers', Industrial Management & Data Systems, 106(2) (2006), 224–41; K.W. Green, & R.A. Inman, 'The impact of JIT-II-selling on organizational performance', *Industrial Management & Data Systems,* 107(7) (2007) 1018–35; D. Lambert, *University of Auckland Business Review*, Spring 2008, http://www.shortcourses.ac.nz/_docs/ AGlobalViewOfSupplyChainManagement2008.pdf (accessed 20 July 2012).

13   Ketchen & Hult; M. Swink, R. Narasimhan, & C. Wang, 'Managing beyond the factory walls: Effects of four types of strategic integration on manufacturing plant performance', *Journal of Operations Management*, 25, (2007) 148–64; D.J. Jr. Ketchen, W. Rebarick, G.T.M. Hult, & D. Meyer, *Business Horizons*, 51, 235–43; A.W. Kim, 'An investigation on the direct and indirect effect of supply chain integration on firm performance', *International Journal of Production Economics*, 119 (2008), 328–46.

14   C. Gimenez, V. Sierra, & J. Rodon, 'Sustainable operations: Their impact on triple bottom line', *International Journal of Production Economics*, 140(1) (2012), 149–59.

15   A. White, E.M. Daniel, & M. Mohdzain, 'The role of emergent information technologies and systems in enabling supply chain agility', *International Journal of Information Management*, 25 (2005) 396–410; B. Sherehiy, W. Karwowski, & J.K. Layer, 'A review of enterprise agility: Concepts, frameworks, and attributes', *International Journal of Industrial Ergonomics*, 37 (2007), 445–460; Gunasekaran *et al*.

16   M. Christopher, & D. Towill, Developing market specific supply chain strategies*, International Journal of Logistics Management*, 13(1), (2002), 1–21; White *et al*.; Gunasekaran *et al*.

Furthermore, nowadays, managing effectively within the SC context is not only considered from both a social and an economic perspective in line with the classical management approach, but also needs to cater for an environmental perspective, to promote environmental sustainability in line with the triple bottom line (3BL) sustainability.[17]

Literature gaps associated with the research objective: SCI gaps from a SCM, manufacturing and leadership perspective

From the **supply chain management literature,** research is quite limited: in the key factors to achieve SCI;[18] in established holistic SCI frameworks;[19] and in forming of relationships.[20]

From the **manufacturing literature**, the manufacturing sector needs further research in the area of 'holistic research approach ... with the perspective of a more sustainable manufacturing for the production of more sustainable products and services'.[21]

From the **leadership literature**, it was asserted that the 'management of integrated supply chain' is a 'largely ignored area'.[22] There are few scholarly works which explicitly consider network based **leadership** in

17   A. Ashby, M. Leat, & M. Hudson-Smith, 'Making connections: a review of supply chain management and sustainability literature', *Supply Chain Management: An International Journal*, 17(5) (2012), 497–516; Gimenez *et al*.; S.M. Lee, S.T. Kim, & D. Choi, Green supply chain management and organizational performance, *Industrial Management & Data Systems*, 112(8), (2012), 1148–80; M.C.J. Caniels, M.H. Gehrsitz, & J. Semeijn, 'Participation of suppliers in greening supply chains: An empirical analysis of German automotive suppliers', *Journal of Purchasing & Supply Management*, 19 (2013), 134–43.

18   X. Zhao, B. Huo, B.B. Flynn, & J.H.Y. Yeung, The impact of power and relationship commitment on the integration between manufacturers and customers in a supply chain, *Journal of Operations Management*, 26, (2008), 368–88; Flynn *et al*.; T. Schoenherr, & M. Swink, Revisiting the arcs of integration: cross-validation and extensions, *Journal of Operations Management*, 30 (2012), 99–115.

19   Flynn *et al*.; M. Pero, T. Rossi, C. Noe, & A. Sianesi, 'An exploratory study of the relation between supply chain topological features and supply chain performance', *International Journal of Production Economics*, 123, (2010) 266–78; M. Garetti & M. Taisch, 'Sustainable manufacturing: trends and research challenges', *Production Planning & Control*, 23(2–3) (2012), 83–104.

20   Ashby *et al*.

21   Garetti & Taisch, 88.

22   C.C. Defee, T.P.T. Stank, & T. Esper, 'Performance implications of transformational supply chain leadership and followership', *International Journal of Physical Distribution & Logistics Management*, 40(10) (2010), 764.

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the macro context of inter-organizational networks.[23] There is also lack of research on the integration between the HRM and SCM disciplines.[24]

Sustainability literature gaps within the supply chain context

Most of the research within the SCM literature with respect to **sustainable practices** has been fragmented and considered single activities in isolation;[25] as a result scholarly studies need to consider the 3BL measures from a holistic perspective. Scholarly work vis-a-vis SC actors, such as suppliers, engagement in green SC initiatives in-conjunction with the focal firm, is lacking.[26]

Information technology (IT) literature gaps within the supply chain context

Some firms have successfully integrated eBusiness technologies but others still struggle to implement and justify eBusiness initiatives.[27] The payoff on SCM from IT investment has been referred as the 'IT paradox' or 'productivity paradox'.[28] Currently SCs are treating both the information management and the IT infrastructure capabilities as resources to promote a competitive edge through the Internet of Things (IoT).[29]

23   J. Sydow, F. Lerch, C. Huxham, & P. Hibbert, 'A silent cry for leadership: Organizing for leading (in) clusters', *The Leadership Quarterly*, 22 (2011), 328–43.

24   M.L. Lengnick-Hall, C.A. Lengnick-Hall, & C.M. Rigsbee, 'Strategic human resource management and supply chain orientation', *Human Resource Management Review*, 23(4) (2013), 366–77.

25   S. Gold, S. Seuring, & P. Beske, P, Sustainable supply chain management and inter-organizational resources: a literature review, *Corporate Social Responsibility and Environmental Management*, 17(4), (2010) 230–45; Caniels *et al*.; J.L. Glover, D. Champion, K.J. Daniels, & A.J.D. Dainty, 'An Institutional Theory perspective on sustainable practices across the dairy supply chain', *International Journal of Production Economics* (2014).

26   Caniels *et al*.

27   S. Devaraj, L. Krajewski, & C.W. Wei, 'Impact of eBusiness technologies on operational performance: The role of production information integration in the supply chain', *Journal of Operations Management*, 25 (2007), 1199–216.

28   C. Freeman, & L. Soete, Fast structural change and slow productivity change: some paradoxes in the economics of information technology, *Structural Change and Economics Dynamics*, 1(2) (1990); E. Brynjolfsson, & S. Yang, Information technology and productivity: a review of literature, *Advances in Computers,* 43, (1996) 179–214; J.H. Lim, V.J. Richardson, & T.L. Roberts, 'Information technology investment and firm performance: a meta-analysis', *Proceedings of the 37th Hawaii International Conference on Systems Sciences*,(2004), 1–11.

29   L. Atzori, A. Iera, & G. Morabito, The Internet of Things: A Survey, *Computer Networks,*

Research Methodology

Research scope and its methodology with its assumptions to promote scientific rigour

The objective of this research is to establish the theoretical insights for academics and practical implications to practitioners from a comprehensive conceptualization of SCI with all its antecedents within manufacturing-based SMEs to achieve competitiveness. The facts presented in this paper formed part of a more comprehensive study based on the author's Ph.D. thesis submission in 2015. The research methodology used is based on the Straussian GTM (i.e. developed by Anselm Strauss and Juliet Corbin) with data generated from 22 in-depth interviews with professionals engaged with SMEs across the SC.

The research methodology outline with its justification

The SCI concept is a multidimensional construct[30] and with exploratory properties.[31] The GTM with a **qualitative approach** was found as a suitable research strategy to answer such a research question due to the exploratory nature of the method[32] and the wealth of quality data needed within the data-collection process.[33]

Furthermore, the GTM has the capability to generate dense theory with a level of complex variation based on the induction and deduction process through the constant comparison of the data.[34] Although

54(15), (2010), 2787–805; D. Prajogo, & J. Olhager, 'Supply chain integration and performance: the effects of long-term relationships, information technology and sharing, and logistics integration', *International Journal of Production Economics*, 135(1), (2012), 514–22; Schoenherr & Swink; M.E. Porter, & J. Heppelmann, 'How Smart Connected Devices are Transforming Competition', *Harvard Business Review*, Nov. 2014, 64–88.

30   P.W. Stonebraker & R. Afifi, 'Toward a contingency theory of supply chains', *Management Decision*, 42(9) (2004), 1131–44.

31   J. Storey, C. Emberson, J. Godsell, & A. Harrison, 'A supply chain management: theory, practice and future challenges', *International Journal of Operations & Production Management*, 26(7) (2006) 754–74; Zhao *et al.*; Schoenherr & Swink.

32   T.J. Bouchard, 'Field research methods: Interviewing, questionnaires, participant observation, systematic observation, unobtrusive measures' in M.D. Dunette (ed.), *Handbook of industrial and organizational psychology* (Chicago, 1976), 363–413.

33   P.N. Stern, 'On solid ground: Essential properties for growing grounded theory' in: A. Bryant & K. Charmaz (eds.), *The Sage handbook of grounded theory* (Los Angeles, 2007).

34   B.G. Glaser & A.L. Strauss, The Discovery of Grounded Theory: *Strategies for Qualitative Research*. (Chicago, 1967), IL: Aldine Publishing Company; A.L. Strauss, *Qualitative Analysis for Social Scientists* (Cambridge CA, 1987); A.L. Strauss, & J. Corbin, *Basics of*

qualitative data was used, it is to be noted that the GTM can also be associated with quantitative research.[35] Furthermore, the philosophical world view adopted by the researcher is that reality is subjective and that the objective truth does not exist and his belief is based on the fact that theory is constructed by the participants' and by the researcher's interpretations, both being informed by their ideals, values and beliefs, within a context. Such a world scenario made the researcher to use a constructivist approach to knowledge generation from the data.[36] It is to be noted that although Straussian GTM principles were used, the researcher kept an informed mind on the fact that GTM is heavily rooted in both the Glaserian and Straussian approaches to promote scholarly work.

The data collection was based on two sampling techniques to generate the data, namely as open sampling and theoretical sampling. The researcher deployed the three Straussian GTM analytic coding techniques, referred as Open, Axial, and Selective Coding respectively. The GTM data management and analytic tools were based on both the Computer-Assisted Qualitative Data Analysis Software (CAQDAS) and the storyline techniques, supported by memos and visual aids all along the research process, in particular, logic diagrams as tables, code matrices as tree diagrams, and conceptual frameworks as mind maps, to promote an audit trail of all the data analysis.[37]

The research quality was based on the validation of the emerged theory which was performed continuously throughout the data collection and analysis stages based on the constant comparison process.[38] All ethical considerations adopted in all data collection and analysis procedures, such as anonymous approach to participants, as referred to in Figure 1 coded reference, data retention, and confidentiality were all in line with ESRC framework.[39]

  Qualitative Research: Techniques and Procedures for Developing Grounded Theory, 2nd edn. (California, 1998).
35 B.G. Glaser, *Doing Grounded Theory: Issues and Discussions* (USA, 1998).
36 K. Charmaz, 'Constructivist and objectivist grounded theory', in N.K. Denzin & Y. Lincoln (eds.), *Handbook of Qualitative Research*, 2nd edn. (Thousand Oaks, 2000) 509–35; J. Corbin & A. Strauss, *Basics of Qualitative Research, Techniques and Procedures for Developing Grounded Theory,* 3rd edn. (Canada, 2008).
37 M.B. Miles, & A.M. Huberman, *Qualitative Data Analysis: An Expanded Sourcebook*, 2nd edn. (Thousand Oaks, 1994); A.L. Strauss, & J. Corbin, *Basics of Grounded Theory Methods* (Beverly Hills, CA, 1990).
38 Strauss & Corbin. *Basics of Qualitative Research.*
39 ESRC (*Economic and social research council), FRE (framework for research ethics*), http://

The research design was based on a cross-sectional type of design,[40] where the objective was to capture a snapshot of what was happening in the field and not to undergo a temporal assessment attributed to longitudinal research. All the participants, under both targeted samples, were based on different types of manufacturing sectors, selected randomly from the *Malta Enterprise Directory 2012*[41] to promote variation and richness in the data.

The initial interview guide was derived from the *a priori* literature review, with the objective to capture open ended data due to the exploratory nature of the research. The second interview guide was derived from tentative emerged theory, with the objective to capture further in-depth data within the emerged concepts and fill the gaps within such research themes to achieve theoretical saturation.[42] Initially pilot studies were carried out to test the content validity of both the interview guides and included the relevant refinements.

The primary data from the two sampling phases were obtained from 17 SC actors based on 22 interviews (i.e. with multiple interview sessions with participants in some firms included in the two sampling phases) with the additional provision of secondary data by some participants. The sample size dimension could not be determined before the data collection and analysis was started, since the GTM is an inductive process with evolving theory as new data is collected and analysed. The overall number of interviews of this research amounted to 22, which is in line with Stern's[43] estimated number of interviews to reach theoretical saturation. The GTM analysis needed to aggregate the participants' meanings and interpretation to understand the organization strategies or actions, outcomes, and contextual conditions in line with the Coding Paradigm or the Conditional/Consequential matrix[44] which was used to guide both the CAQDAS and the storyline data analytic techniques. Every interview with the participants was digitally recorded. The overall data collection consisted from transcriptions which were

www.esrcsocietytoday.ac.uk/ESRCInfoCentre/opportunities/research_ethics_framework/ (Accessed 3 March 2010.

40   A. Bryman, *Social Research Methods*, 3rd edn. (Oxford, 2008).
41   *Malta Enterprise*, http://www.maltaenterprise.com/en/support   (accessed 21 February 2012).
42   Strauss & Corbin, *Basics of Grounded Theory Methods*.
43   Stern.
44   Strauss & Corbin, *Basics of qualitative research*.

undertaken for each interview, together with the field notes taken for each interview and the secondary data. The duration of the research data collection and analysis process took almost two years to complete, with several gaps dedicated to the analysis processes in between interviews to deploy the constant comparison process through various memos and summary memos within the data analysis.

The analytic stages: open, axial, and selective coding

The **Open Coding** analytic approach was used to open the statements (as text or voice) outlined by the participants so as to expose the meaning contained through **potentially and provisional concepts in terms of the emerged codes** grounded in the data.[45]

Such a theorizing process was mainly initiated on the CAQDAS MAXQDA 2007, with the relevant code memos for each open code. It was resumed through the storyline approach, in the next **Axial Coding** stage, with the relevant memos and overall memos for all

emerged tentative categories to develop a more holistic understanding of what the data are saying,[46] with a selection of in vivo quotes from the data to bring participants back to life, and in a systematic and prescriptive approach[47] with the establishment of all conceptual relationships.[48] These two different analytic techniques promoted triangulation of data analytic methods to address the research validity.[49]

At the theoretical sampling stage, the theory became dense with concepts and was also enriched and was finally refined by relevant extant literature, by integrating the emerged theory with the literature, referred as theoretical integration,[50] to discover the substantive theory.[51] With this **Selective**

45   Corbin & Strauss.
46   Glaser; M.Q. Patton, *Qualitative Research & Evaluation Methods*, 3rd edn. (Saint Paul, USA, 2002).
47   Strauss & Corbin, *Basics of Qualitative Research*.
48   Strauss.
49   Miles & Huberman; Strauss & Corbin. *Basics of Qualitative Research*; N.K. Denzin, & Y.S. Lincoln, *The Sage Handbook of Qualitative Research,* 3rd edn. (London, 2005); Bryman; Corbin & Strauss.
50   Strauss; Glaser; Strauss & Corbin. *Basics of Qualitative Research*.
51   Glaser & Strauss.

Coding analytic approach, the categories were integrated and refined, with the selection of a core category, together with other key categories and sub-categories, to represent the substantive theory, as referred in Table 1. The core category is said to cut across all other categories.[52]

The generated substantive theory was compared with the relevant literature so as to establish the contribution to the extant literature. Such a contribution was determined by identifying the commonalities, the differences and the new, between the current literature and the generated substantive grounded theory.[53] Henceforth, the literature was used as a 'secondary source of data'.[54]

The research process and findings

The Figure 1 shows a mind map depicting the research process with the outcomes from each stage and an audit trail of the emerged theory. Table 1 outlines an audit trail of all the emerged categories based on a code matrix, and Figure 2 shows the conceptual diagram to show the final theoretical framework.
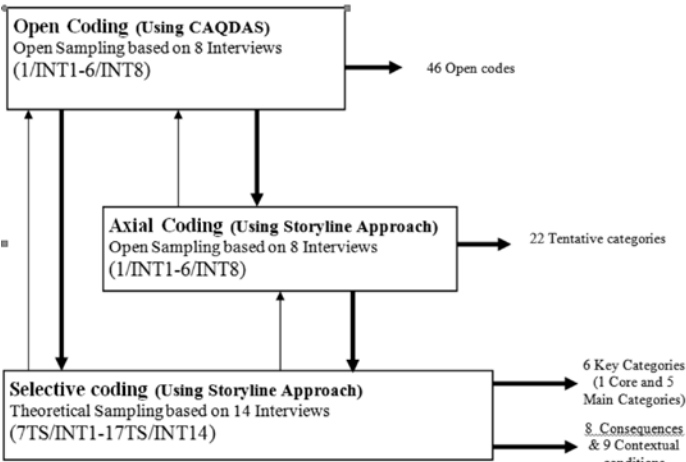
Fig. 1. Outline of the overall GTM coding data analytic approach (author)

52   Strauss & Corbin, *Basics of Qualitative Research.*
53   Glaser.
54   Strauss & Corbin, *Basics of Qualitative Research*, 51.

Phase 1: 46 Open codes (Out of which 39 are Action categories and the others are outcomes and contextual conditions)	Phase 2: 22 Tentative categories: 7 key & 15 non-key tentative categories	Phase 3: 6 Key categories (1 Core & 5 main categories) plus 16 sub-categories
Leadership style; management effectiveness; and priority of works (3)	Leading Effectively (Phase 3 Core Category)	**Core Category**: Integrative Management and Leadership Approach (IMLA)
	Managing business strategy (Phase 3 Main Category 1)	**Main Category (1):** Business Strategy
Sub-contractors & outsourcing (1)	Managing manufacturing strategy (Phase 3 Main Category 2)	**Main Category (2):** Manufacturing strategy
Ownership of operations; SC strategic action and growth (2)	Managing SC Strategy (Phase 3 Main Category 3)	**Main Category (3):** SC strategy
ICT applications (1)	Managing Technology deployment (Phase 3 Main Category 4)	**Main Category (4):** Information and automated technology deployment
Manufacturing process (1)	Managing process within SC and manufacturing (Phase 3 Main Category 5)	**Main Category (5):** Holistic SCI management process approach with **16 sub-categories**:
SC members support; SCI activities; SCI depth; and time management (4)	Managing SCI (Phase 3 Main Category 5)	1. lean management; 2. managing quality and sustainability;
Quality of processes; EHS (sustainability); Lean management; and standards implementation (4)	Lean Management, Sustainability and Quality Standards Compliance (1 & 2 sub-categories in phase 3)	3. managing performance measurements; 4. auditing operations; 5. supply management;
Information sharing; and communication (2)	Managing Information sharing/ communication	6. managing cash-flow; 7. managing change and innovation;
Risk management (1)	Managing Risks	8. managing collaboration;
Collaboration; teamwork; employees' engagement; cross-functional operations; and coordination (5)	Managing Collaboration	9. managing culture; 10. managing knowledge; 11. managing customer service;
Training & share innovative ideas (1)	Managing Knowledge	12. managing information sharing;
Performance measurements (1)	Managing Performance measurements	13. managing logistics; 14. planning/forecasting;
Logistics; delivery actions; and transportation management (3)	Managing Logistics	15. managing risks; and 16. managing trust.
Plans and forecasts (1)	Planning & Forecasting	
Inventory management; supply management; and lead time (3)	Supply management	
Change management; flexibility; and innovation (3)	Managing Change & Innovation	
Customer relationship management (1)	Managing Customer Service	
Trust (1)	Managing Trust	
	Managing Culture	
Auditing & traceability of operations (1)	Auditing Operations	
	Managing Cash-flow	

Eight Competitive Capabilities (Outcomes)
SC flexibility; SC visibility; business continuity; continuous improvement; lean (optimized) operations; effective and efficient performance; sustainability (3BL); and effective customer service.

Nine Contextual Conditions
Macro: EU Free trade zone; Global commerce outside EU needs to pay special tariffs; EU/Government incentives for investment and innovation; Malta small economies of scales makes most of the services relatively expensive (e.g. port charges, transport, electricity); Malta's strategic location for sea transport for EU, North Africa and Asia; Current cut-throat competitive scenario; political, legal and social stability; and Global or EU Economic recessions disrupts the procurement of all imports. **Micro:** Human resources competitive capabilities and professional competences promote good governance of SMEs.

Table 1. Code Matrix for all categories within the research phases (author)
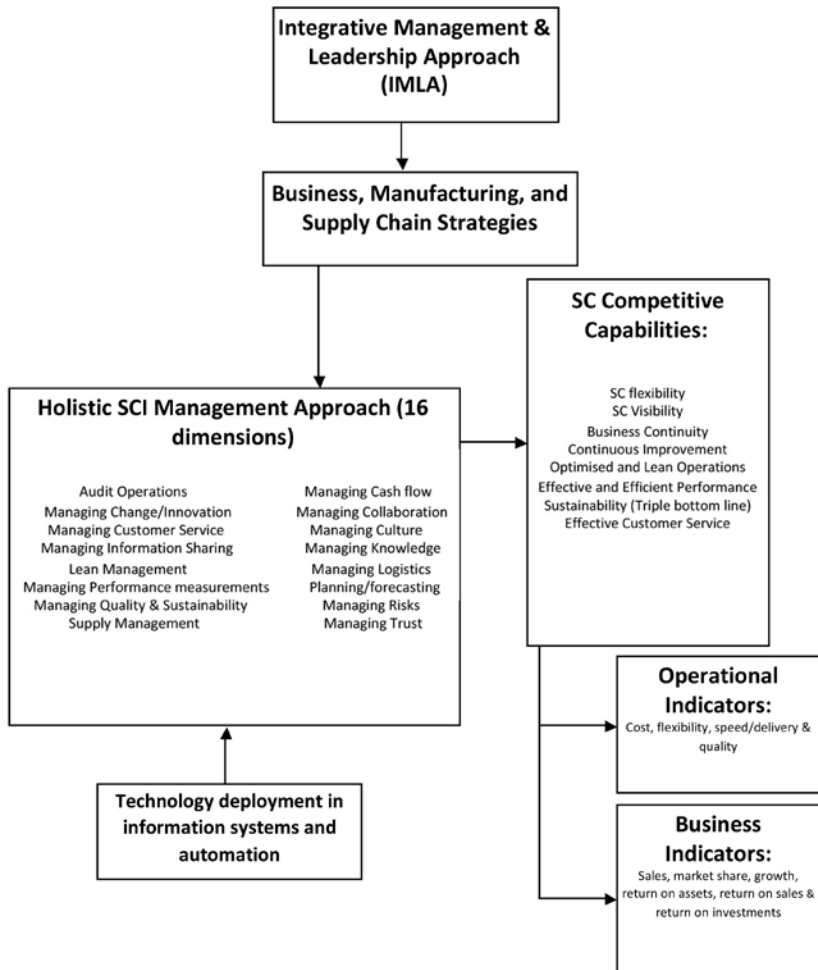
Fig. 2. SCI Theoretical Model

Discussion of the findings within the extant literature: An outline of the generated substantive theory

The study emerged substantive theory from the data, as referred in Figure 2, is based on a core action theme, **Integrative Management and Leadership Approach** (IMLA), together with a set of other five

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(5) main themes and sixteen (16) sub-themes. The **operational** and **business indicators** outcome themes emerged by the comparison of the outcomes substantive theory with the final literature review, to serve as the key indicators to measure the achievement of the SC competitive capabilities within the generated theory based on the nine contextual conditions.

The core theme

The IMLA is the core theme behind SCI achievement. The IMLA is considered an original conceptual term compared with the review of the literature within the SCI theory, and it is defined to be both a driver and a binding force of all SC actors, based on a dual concept made up from the integration of the management and leadership approaches.

The generated substantive theory confirms that to achieve SCI an IMLA needs to be deployed at the strategic, tactical and operational management levels, with due consideration of each SC actor contextual conditions. The IMLA establishes and implements the right strategies for the business, manufacturing and SC, within the focal firm and across the SC by involving all SC actors, based on a holistic SCI management approach, based on sixteen conceptual actions, so as to achieve competitive capabilities. Such a holistic SCI management approach is enabled by technology deployment in information systems and in manufacturing.

The management approach within the IMLA integrates all people through the established organisational practices and maintains all the necessary quality standards and sustainable measures in place and at the same time streamlines and optimises all activities, both within and outside the focal firm, to meet a set of competitive capabilities.

The leadership approach within the IMLA is ideally focused on a **shared leadership approach** by transforming and inspiring people, so that the business becomes innovative, empowered and adopts a dynamic approach based on a culture of teamwork, but it is not being excluded that senior management may adopt an **individual leadership approach** and still expects such best practices, so as to create outstanding performance, both within the focal firm together with all SC actors as its stakeholders. The IMLA is rooted within four types of leadership styles: transformational; servant; transactional and situational styles respectively, to meet different needs.

Four participants distinguished and explained the **strategic leadership approach**, through a **shared leadership style**, as follows:

'Workers are involved in all decisions'; '… to empower their responsibilities across all departments' (1/INT2);'…leadership is very effective at all levels' (3/INT 4); 'Leadership style is like the glue to match all management levels together'; '… employing an open door policy, within the focal firm and a controlled open book, with all external entities' (5TS/INT2); and 'I [as CEO] fully involve myself to lead by example' (8TS/INT4).

One participant outlined the **individual leadership approach** as follows:

'… All starts from the top management direction, from the Directors … They decide the direction and create new policies. I start my work from the policy onwards …' (5/ INT6).

The IMLA enables the focal firm to meet the SC and manufacturing lean and agile requirements so as to achieve SC flexibility and responsiveness among other competitive capabilities as referred to in Figure 2. One cannot exclude the fact that both management [55] and leadership,[56] as referred to in the extant literature, are not only scientific disciplines but are alsoperforming arts. As a result in practice to achieve SCI with the deployment of the IMLA, all SC actors need a level of creativity and wisdom to establish the common good of the overall SC. SC actors also cannot exclude the fact that a well-organized SC set-up may still stifle or hinder a certain level of change and innovation.[57] On the other hand, one has to consider that with SCI there is more to gain than to lose, as a result of the synergies and teamwork efforts with well committed and non-adversarial relationships with all SC actors.[58]

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55   T.J. Watson, *Management, Organisation and Employment Strategy* (Nottingham, 1986).

56   W. Bennis, 'The challenges of leadership in the modern world: Introduction to the special issue', *American Psychologist*, 62(1) (2007), 2–5.

57   J. Neuman, & C. Samuels, 'Supply chain integration: vision or reality?', *Supply Chain Management*, 71(2) (1996), 7; O. Sorenson, 'Interdependence and adaptability: organizational learning and the long-term effect of integration', *Management Science*, 49(4) (2003), 446–63.

58   Gunasekaran *et al.*; Cheung *et al.*; B. Huo, 'The impact of supply chain integration

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In summary, the main contribution of the research is that the study inductively derived a theory which extends the current literature, which is mainly based on a dyadic relationship,[59] to a substantive theory that captures all the SC members beyond the dyad to achieve SCI.[60] The emerged theory outlined that for an integrated SC to achieve its competitive capabilities in different criteria (e.g. sustainability and efficient and effective performance), as has been referred to in Figure 2, requires a complex set of concepts which revolves around the IMLA. Any failure of any SC member to meet the established performance targets may have a negative domino effect on the overall SC. This research extends the conceptual term referred to as integrated chain management (ICM) as referred by German and Dutch manufacturing;[61] adds to the leadership and HRM literatures within SCM;[62] and also corroborates with sustainable SCM practices within the extant literature.[63]

Summary and conclusions

Overview of the research outcome
This research study has proposed an inductive derived theory with its theoretical framework on how to achieve a holistic SCI approach within

on company performance: an organizational capability perspective', *Supply Chain Management: An international Journal*, 17(6) (2012), 596–610; Schoenherr & Swink.

59 S. Croom & P. Romano, 'Supply chain management: an analytical framework for critical literature review', *European Journal of Purchasing & Supply Management*, 6 (2000) 67–83; G.P. Cachon, T. Randall, & G.M. Schmidt, 'In search of the bullwhip effect', *Manufacturing & Service Operations Management*, 9(4) (2007), 457–79; T. Xiao, K. Shi, & D. Yang, 'Coordination of a supply chain with consumer return under demand uncertainty, *International Journal of Production Economics*, 124 (2010), 171–80; M.-C. Huang, T.-C. Liu, G-F. Yen, & C-Y. Chiu, 'Supply chain integration as spider-web network through governance mechanisms', *Commerce and Management Quarterly*, 13(4) (2012), 339–75.

60 Flynn *et al.*; Pero *et al.*; Garetti & Taisch.

61 S. Seuring, & M. Muller, Integrated chain management in Germany – identifying schools of thought based on a literature review. *Journal of Cleaner Production*, 15 (2007), 699–710.

62 Defee *et al.*; Lengnick-Hall *et al*.

63 G. Wu, J. Ding, & P. Chen, 'The effects of GSCM drivers and institutional pressures on GSCM practices in Taiwan's textile and apparel industry', *International Journal of Production Economics,* 135(2), (2012), 618–36; Caniels *et al.* (2013); J.L. Glover, D. Champion, K.J. Daniels, & A.J.D. Dainty, 'An Institutional Theory perspective on sustainable practices across the dairy supply chain', *International Journal of Production Economics* (2014); C.F. Hsueh, 'A bilevel programming model for corporate social responsibility collaboration in sustainable supply chain management', *Transportation Research*, Part E 73 (2015), 84–95, http://dx.doi.org/10.1016/j.tre.2014.11.006.

manufacturing, based on Strauss and Corbin[64] and Corbin and Strauss[65] GTM. Furthermore, the literature review played a crucial role at the end of the data analysis process, since the extant literature served as another source of data,[66] which was used to derive the commonalities and the differences between the extant literature and the substantive theory and also refined the final emerged theory with the established business and operational indicators from the eight competitive capabilities.

The theoretical contributions: the main set of propositions that guides SC actors to achieve SCI

First, the research proposes that **SC actors through the IMLA** need to take all the **necessary strategic measures** in both manufacturing and SC sustainability requirements, together with the implementation of all quality management objectives, in line with the 3BL to achieve competitive capabilities.

In particular, the IMLA ideally adopts a strategic leadership approach, based on a shared leadership stance instead of an individual leadership approach, so as to build on the collective effort of all people based on four types of leadership traits to achieve both intra and inter-SCI, where the **transformational leadership style**, needs to meet the change and innovation through people; the **servant leadership style**, needs to be sensitive for people's requirements and at the same time meets the business objectives; the **situational leadership style**, needs to meet contingent situations of all actors; and the **transactional leadership style**, needs to meet the routine flow of transactions in line with the established performance measures.

Second, the research proposes that for all SMEs to achieve SCI, an IMLA needs to be deployed at the strategic, tactical and operational management levels, with due consideration of each **SC actor contextual conditions**, so as to establish and implement the right strategies for the business, manufacturing and SC, based on a holistic SCI management approach, which is enabled by technology, in both automation and information systems, so as to achieve competitive capabilities.

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64   Strauss & Corbin, *Basics of Qualitative Research.*
65   Corbin & Strauss.
66   Strauss; Glaser; K. Charmaz, *Constructing Grounded Theory: A Practical Guide Through Qualitative Analysis* (London, 2006).

In particular, such a strategic approach needs to implement, assess and revise on an ongoing basis and with a continuous improvement approach their **manufacturing and SC tactical and operational collaborative relationships**, both internally and externally with all the SC stakeholders, through high quality and sustainable processes (i.e. based on the 3BL with ISO-based standards), so as to improve on the overall SC competitive capabilities.

Third, the research proposes that the overall SC, through its IMLA, holistically need to involve the **human element** within all SC actors, through all the necessary dedicated collaborative initiatives (i.e. from an arm's length to a close relationship continuum), depending on the role of each SC actor, to achieve competitive capabilities.

In particular, such a holistic SCI management approach, through the involvement of all the key stakeholders, which is enabled by technology, needs to build on trust and to jointly-derive the necessary business, SC and manufacturing strategies across all management levels from a **social perspective**, which are all needed to achieve the SC competitive capabilities.

Methodological contribution

This research extends the applicability of grounded theory based research within SCM and OM disciplines since it was found as the 'best-fit' methodology since the research objective was after theory verification and generation.[67] Furthermore, such a study answers the call for such a GTM methodology usage, since 'it is not very widespread and rigorously applied in operations management (OM) research'.[68]

Research limitations

The research offered a credible, valid and trustworthy substantive theory based on a GTM. In spite of the scholarly work to respect scientific rigour, this research work is still subjected to different sources of limitations, which in some way or another, could not be avoided, as explained below.

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67 R. Suddaby, 'What grounded theory is Not', *Academy of Management Journal*, 49(4) (2006) 633–42; T.J. Watson, *Management, Organisation and Employment Strategy* (Newcastle, 1986).

68 Watson, 232.

First, the research focus on the Maltese SMEs manufacturing sector, limits the research generalization due to the contextual uniqueness of the sample. Second, the sample understudy is limited, since not all SC members could be included for every focal firm understudy so as to cover the whole SC. Third, the research did not identify the theoretical effect of each particular leadership style from the four established traits but considered the overall competitive capabilities from a holistic perspective. Fourth, in some cases data collection was limited due to the controlled and limited access given, since for some firms, the data obtained had to rely on a single informant, who may have added a level of subjectivity and bias to the research response. Fifth, this study theoretical richness may have been limited by the use of a cross-sectional research design, which only captured a snapshot of what the data were saying at one moment in time. Because SCI is a long-term strategic commitment and not a quick fix approach between all SC actors, a longitudinal study would have rendered more rich data based on more variations. Sixth, the research has produced a parsimonious model of a set of antecedents and outcomes of inter-organizational conceptual elements which include a theory based on substantial breadth but lacks the depth. Seventh, the research with the deployment of the systematic approach, in line with the GTM techniques and procedures,[69] may have stifled the theory emerging process.

Suggestions for future research
The substantive theory with its theoretical model is very comprehensive and consists from a multiplicity of factors, which have a varying degree of impact on SCI, which were not quantified. Hence future research may study such concepts, to derive their receptive weighted significance to the SCI initiatives to achieve competitive capabilities.

The proposed framework shall be used to direct future researchers to investigate the role of all conceptual elements relationship, through a large scale study from a quantitative approach, to enhance its validity and generalizability to other contextual conditions and also to sustain or invalidate such a substantive theory with its theoretical framework. The sample under such research shall incorporate other contexts or adopt a

69   Strauss & Corbin, *Basics of Qualitative Research*; Glaser.

cross-cultural study within EU or across different countries worldwide to ensure a broader context.

It will be fruitful for future research to examine the evolution of SCI patterns across time by undertaking a longitudinal type of research design to capture the nature of the SCI phenomenon being a process approach which varies across time with all SC actors.

The GTM structured approach used within such a research shall serve as a guideline to promote to other scholars on how to deploy such a systematic approach to generate new theories based on the GTM.

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Web-Based eTutor for Learning Electrical Circuit Analysis

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Abstract: This paper discusses a web-based eTutor for learning electrical circuit analysis. The eTutor system components, mainly the user-interface and the assessment model, are described. The system architecture developed provides a framework to support interactive sessions between the human and the machine for the case when the human is a student and the machine a tutor and also for the case when the roles of the human and the machine are swapped. To motivate the usefulness of the data gathered, some examples of interactive sessions are given and models to capture both declarative and procedural knowledge during learning are discussed. A probabilistic assessment model is reviewed and future directions in the field of eTutors for electrical circuits are discussed.

Keywords: electrical circuits, intelligent tutoring systems, web-based tutor, graphical user interface, automated assessment

Society requires knowledgeable and skilled workers and professionals. Compared to the other countries in the EU, it is evident that Malta requires more engineers. On average 2.14% of the employees in the EU work in the engineering profession in recent years, compared to only 1.06% in Malta.[1] Most industries in Malta are trying to fill up the gap left in the engineering jobs by employing foreign engineers. While this is not to be discouraged, it is a clear sign that Malta would benefit if its tertiary education system produced more

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1   V. Erdmann and T. Schumann, 'European Engineering Report' (Germany, 2010).

qualified and competent engineers and technicians. For this to happen, the secondary schools that feed students to the tertiary education institutions can help by improving the way that science, technology, engineering and mathematics (STEM) subjects are taught.

It is a well-known fact in education that one-to-one tutoring helps students to improve their achievements while studying,[2] but one-to-one tutoring for all, with human tutors is not possible. Alternatively, a way to achieve such tutoring is computer-based Intelligent Tutoring Systems (ITSs) which can help the human tutors.

The architecture for a typical ITS is shown in Figure 1. The main components of such a system are a domain expert model, a student model, a pedagogical model and the human computer interface, which should not be underestimated. Additionally, the human tutor model is added to tune the ITS system to the peculiarities of specific human tutors. The way the human student interacts with the system is defined by the user interface. The interface selected has a pronounced effect on the pedagogical nature of the ITS. It can, for example, limit the types of inputs that a student is allowed to enter. In general, the ITS research community agrees that the problem-solving environment should emulate as far as possible the real world environment and at the same time facilitate the learning process,[3] even though any scaffolding should be completely removed at the tail-end of the learning process.[4] The user interface is discussed further in this paper.

2   B.S. Bloom, 'The 2 sigma problem: The search for methods of group instruction as effective as one-to-one tutoring', *Educational Researcher*, Vol. 13 (1984), 4–16.

3   A.T. Corbett, K.R. Koedinger, and J.R. Anderson, 'Intelligent tutoring systems', *Handbook of Human-Computer Interaction, Elsevier Science*, Vol. 37 (1997).

4   R.R.V.D. Stuyf, 'Scaffolding as a teaching strategy', *Adolescent Learning and Development* (2002).
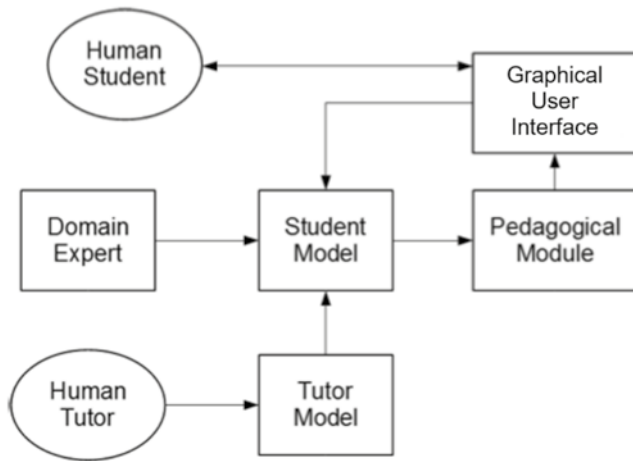
Figure 1 The architecture for the Intelligent Tutoring System, derived from Corbett [5] and Hwana [6]

The domain expert module provides an interpretation of the student's input and determines whether the assertions of the students are correct in the specific domain area. This module is therefore at the heart of any assessment system and is a benchmark that students strive to reach. The student model is a record of the knowledge state of a student. In its most simple form it is a copy of the expert's model that is tagged with information of how well the student has demonstrated knowledge of each component in the expert model. The latter is often termed 'declarative knowledge'. The pedagogical module decides the problems and sequence that are presented to the student and at which moment it offers support to the student. This model is usually considered to be domain independent. Notwithstanding the significant progress in the field of ITS, the products developed are still deemed not as effective as a human tutor in leading discussions with students.[7]

5   Corbett *et al*.
6   H.S. Hwana, 'Intelligent tutoring systems: An overview', *Artificial Intelligence Review*, Vol. 4 (1990), 251–77.
7   M. Mishra, V. Mishra, and H. Sharma, 'Intellectual ability planning for intelligent tutoring system in computer science engineering education', *Emerging Trends and Applications in Computer Science (NCETACS)*, *3rd National Conference on IEEE* (2012), 26–30.

This paper describes the development and study of a web-based automated tutor that helps in teaching basic electrical circuit analysis concepts. This web-based tutor helps students to analyse DC circuits made up of batteries and resistors. Furthermore it also assesses the performance of the students who use it.

User-interfaces for eTutor systems

Since the late 1980s the most popular user-interface for computers has been the windows, icons, menus, and pointer (WIMP) interface in which a mouse is used for the pointer. The WIMP interface is an effective and accurate user-interface for many different applications. In the early 1990s audio output, like sound effects and music, became common additions to the WIMP interface. Still this interface is limited in scope when compared to human-to-human interactions.

From the point of view of a student being tutored, the ideal tutor would probably be exactly like a human being, i.e. the human tutor replaced by a human-like robot, or android, which would move around the classroom with the same agility of a human and, for example, be able to sit down next to the student. However, the idea of a physical robot that is so capable and human-like is still out of reach and it will probably remain so for many more years. Still, if we let go of the idea of having a human-like robot, we can still hold on to the idea that the interactions which the automated tutor supports over a system consisting of a touch-screen, keyboard, mouse, camera, speakers, and stylus, will be as human-like as possible.

Ideally the automated tutor would listen to the user's spoken input, reply, and ask questions in audio and observe the user's hand-drawn circuit diagrams and calculations. Speech recognition and synthesis technology has now advanced to a state that can be readily integrated in an ITS system. On the other hand, prior to using the latter technology, the automated tutor itself has to produce relevant, clear, helpful, and human-like textual output. A number of automated tutors[8] and domain-

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8   M. Ahmed and M.M. Bayoumi, 'An Artificial Intelligent Instructor for Electrical Circuits', *Proceedings of 37th Midwest Symposium on Circuits and Systems*, Vol. 2 (1994), 1362–65

expert systems[9] attempt to generate textual output for specific types of electrical circuits, for example simple DC electrical circuits or AC electrical circuits made up of signal generators, resistors, capacitors, and inductors. Research carried out on chatbots is related to generating text. In the last few years chatbots that make textual interactions satisfactorily human-like have been developed for a number of different domains including engineering.[10] Chatbots need to be taught the domain in which they function; in this case the domain of electrical circuits theory needs to be provided to the chatbot for it to start handling the conversation with the student. With this in place, the chatbot can ask questions about the circuit or give feedback about assertions that the student makes regarding the circuit.

Apart from textual output the presently available automated tutors make use of graphical output. Naturally they show the schematic diagram of the electrical circuit that the student wants to analyse. Some of these tutors also show arrows that indicate the directions of the currents and voltages inside the circuit. It should also be possible for these automated tutors to provide simple animations to show some of the actions happening inside a circuit, like the flow of current and the charging of a capacitor Such animations have been already used in electrical circuit simulators like Proteus Isis from Labcenter Electronics.[11]

Some eTutors have incorporated 3D Avatars in them, usually having a human form, as a front end that does empathetic gestures and facial expressions while the tutoring is taking place.[12] Another possibility that is being researched is that of using Augmented Reality. For example, J.M. Gutierreza *et al*. have used head-mounted displays (HMD) and tablet PCs to visualize the virtual objects during laboratory sessions

9   J.D. Kleer, 'How Circuits Work', *Artificial Intelligence* (Holland, 1984), 205–80

10   S. Crown, A. Fuentes, R. Jones, R. Nambiar, and D. Crown, 'Ann G. Neering: Interactive Chatbot to Motivate and Engage Engineering Students.' *Computers in Education Journal*, Vol. 2, No. 2 (2011), 24–34.

11   Proteus, 'Electronics Courses with the Proteus schematic capture program', [online] Available at: https://www.labcenter.com/education/#Electronics Courses (accessed 29 August 2017).

12   H.V. Diez, S. Garcia, J.R. Sanchez, M.D.P. Carretero, '3D Animated Agent for Tutoring Based on WebGL' *Web3D '13 Proceedings of the 18th International Conference on 3D Web Technology* (2013) 129–34.

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carried out in an electric machines laboratory.[13] There are also studies of how multiple devices, for example a desktop computer and a mobile, can be used together to enhance the user experience.[14] Software Tools have been created to help in the development of these different types of user interfaces.[15]

The developed user-interface

The PHP server-side scripting language has been used to code the user-interface of the eTutor reported in this paper. PHP is purpose-built for the creation of websites, including dynamic websites, like the one developed for this eTutor. Furthermore PHP is freely available for use without any licensing costs.

Figure 2 shows a snapshot of the user interface of the web-based tutor. The input commands and the responses generated by the eTutor are shown in the upper part of the webpage. Commands are inputted to the eTutor via an HTML form while a list of the past commands is shown in a scrollable HTML text area together with the response that the eTutor gave for each command.

The circuit schematic is drawn in the lower part of the webpage. The whole webpage is scrollable, so large circuits schematics that do not fit into one screen can still be accommodated. The graphics of the components, nodes, and wires that make up the schematic of the electrical circuits are created using Scalable Vector Graphics (SVGs) which are rendered locally on the internet browser of the client PCs that the students use.

Interaction using this user-interface

Commands can be inputted to the eTutor one at a time with the eTutor giving a response as soon a command is entered. The circuit can be built by inserting commands into the eTutor. Examples of tasks that can be

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13   J.M. Gutierrez, E. Guinters, and D.P. Lopez, 'Improving strategy of self-learning in engi-
      neering: laboratories with augmented reality', *Procedia – Social and Behavioral Sciences*,
      Vol. 51 (2012), 832–9.

14   F. Paterino, 'User Interface Design Adaptation', *The Encyclopedia of Human-Computer In-
      teraction*, 2nd ed. (2014) 39.

15   B. Myers, S.E. Hudson, and R. Pausch, 'Past, Present, and Future of User Interface Software
      Tools', *Carnegie Mellon University, ACM Transactions on Computer-Human Interaction
      (TOCHI) – Special issue on human-computer interaction in the new millennium*, Vol. 7 Issue
      1 (2000), 3–28.

done to build the circuit are:
- Insertions of new nodes and components;
- Movements of nodes and components;
- Connections of components to nodes;
- Rotation of components.

The electric circuit shown in Figure 2 shows one battery and 14 resistors with resistors R9, R14, R15, and R16 being connected in parallel. An example of a statement or assertion that the user can make for this circuit is:

are_parallel R9 R14

With this assertion the user is stating that resistors R9 and R14 are connected in parallel. The reply from the tutor is:
Yes, those resistors are in parallel. Well done!
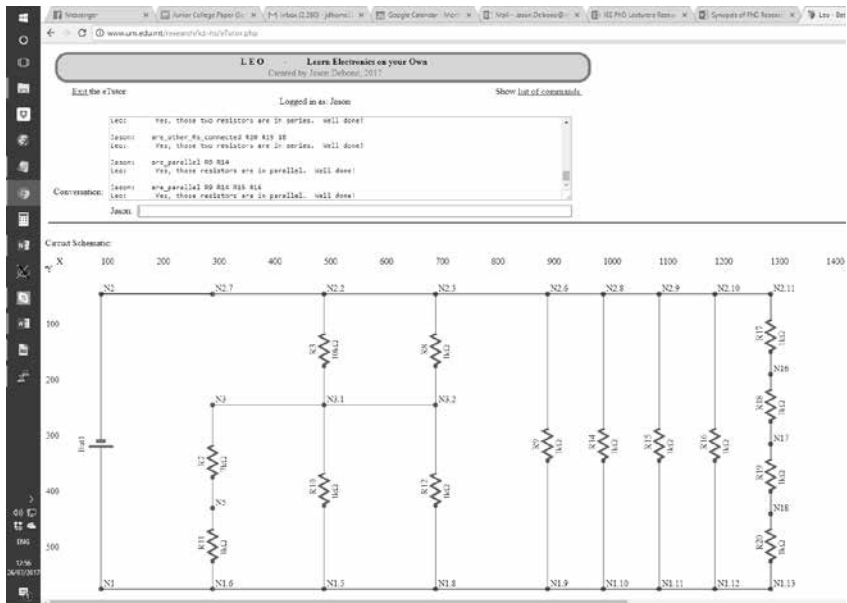
Figure 2 The user interface of the developed web-based eTutor

Assessing the knowledge learnt

The educational literature explores many different ways to assess students' work. This paper limits itself to summative/formative and declarative/procedural assessments. Examinations are summative assessments because they try to assess all the knowledge and/or skill of the student in one, usually time-constrained, assessment session. In contrast, formative assessment is done in a number of sessions, spread out during the academic year or semester in which a particular subject is being delivered. The results of one formative assessment can influence the way in which a subject is delivered following that particular formative assessment session. On the other hand, summative assessments are only meant to give a snapshot of the students' ability at a certain point in time, usually at the end of the delivery of the course. An automated tutor empowers the student to get formative assessment because the student can get frequent and immediate feedback for the work inputted with the feedback being used to improve knowledge and skills.

Knowledge can be classified into two classes: declarative and procedural,[16] hence the need for both declarative and procedural assessments. In the former the student is assessed from the statements given, which frequently are remembered facts, rules, and relationships. Procedural assessments, on the other hand, focus on the student's ability to perform a practical task and also on the problem-solving approach used. Procedural knowledge is typically ill-defined; consequently procedural assessments often involve the student having to actually perform a practical task. On the other hand, it is still common to find procedural assessments done without involving practical tasks by, for example, using written questions designed to target the knowledge of how the concerned task should be performed.

For the case of declarative knowledge statistical models may suffice, while for procedural knowledge models that consider the sequence and order, in which declarative knowledge is applied, are desired. In the electrical circuits ITSs described by Ahmed[17] and Yoshikawa[18] the

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16 Corbett *et al.*
17 Ahmed *et al.*
18 A. Yoshikawa, M. Shintani, and Y. Ohba, 'Intelligent tutoring system for electric circuit exercising,' *IEEE Transactions on Education*, Vol. 35, No. 3 (1992) 222–5.

student model is limited to recording declarative knowledge while Mishra *et al.* point out that the model should also capture the knowledge flow.[19] Finally, the student model is used to assess the progress of the student and its output is very useful for the pedagogical module that observes the student and controls the actions taken by the ITS.

The developed assessment model

When the assertion 'are_parallel R9 R14', is inputted, the eTutor first logs the assertion, then uses its domain knowledge to check if resistors R9 and R14 are truly connected in parallel and finally it replies whether this statement is true or not. This is an example of a declarative assessment.

Similarly the user could check if resistors R14 and R15 in Figure 2 are in parallel or not. The tutor again logs this, checks it, confirms that this is indeed the case for the circuit in question and congratulates the user. In other words, the tutor will assess this second declaration, hence carrying declarative assessment as in the previous case.

However, if the student is more careful, or more proficient in his analysis, he will realize that R9, R14, R15, and R16 are all connected in parallel. Hence there is not really the need to check parallel connections for separate pairs of these resistors; instead the student can assert that these four resistors are connected in parallel in just one step by inputting the assertion below:

are_parallel R9 R14 R15 R16

While the automated tutor carries out a declarative check for this assertion, implicitly it also carries out a procedural assessment in that the procedure that the student used this time is faster or more efficient than that of using multiple statements in which only pairs of resistors are considered.

The same reasoning applies when assessing what the user goes through to find out which resistors are connected in series. More complex examples can be created when considering the multiple steps that the user follows to analyse a whole circuit. Most circuits will need more than one parallel or series resistor assertions. After each assertion

19   Mishra *et al.*

new equivalent resistors replace the old sub-circuit and as a result the circuit topology changes. These iterative assertions last till there are no more parallel and series combinations. An example of this process is shown in Figure 3. The way that the student handles the whole process is used by the developed eTutor for procedural assessment.

replace_ser R3 R4 2000   replace_par R2 R3_4 667   replace_ser R1 R3_4_2 1667
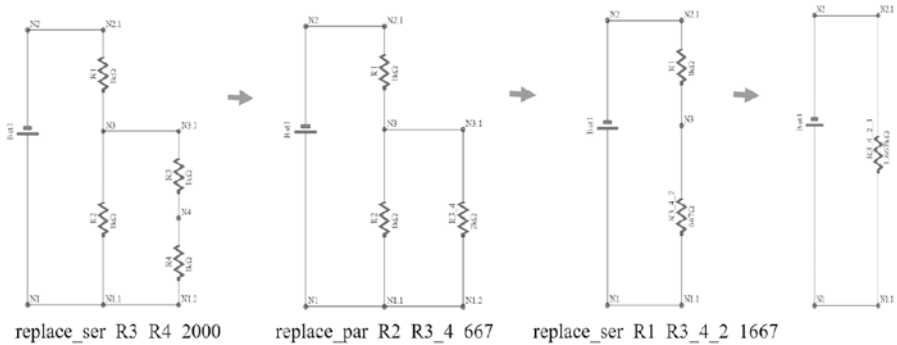
Figure 3 Examples of possible steps that the student can use to analyse a circuit

In the earlier work we used the Markovian model shown in Figure 4 to assess a class of 27 students for the analysis that they did on an electrical circuit.[20]
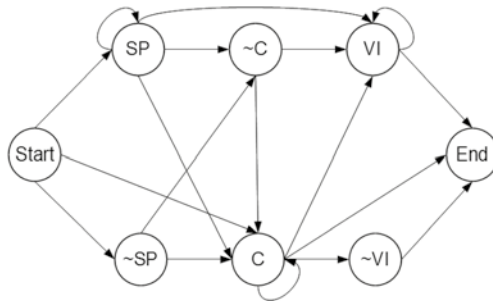
Figure 4 The Markovian model. (Not all possible transitions are shown.)

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20   A. Muscat and J. Debono, 'Assessment Models and Qualitative and Symbolic Analysis Techniques for an Electrical Circuits eTutor', *International Journal on Advances in Intelligent Systems*, Vol. 5 Nos. 3 & 4 (2012), 278–90.

The students were classified into four different levels: Level 1 meaning that the students have mastered electrical circuit theory; Level 2 meaning that they did well in it; Level 3 meaning that they did poorly in it; while Level 4 meaning that they failed in learning electrical circuit theory. Four Markov models were used, one for each level. Figure 5 depicts how this classification was done.
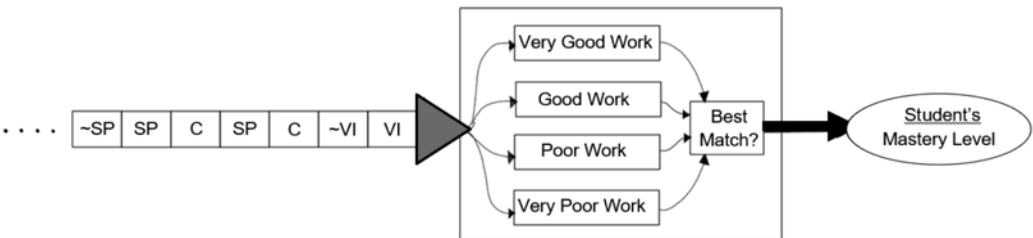
Figure 5 Likelihoods for four Markovian models are found
while observing the student's steps

The students' work was assessed by one of the authors and his assessment was used to train the Markov model. When eight of the manually assessed students' works were used for training the correct classification rate was 70%, while when all the 27 works were used the correct classification rate was 93%.[21]

Future directions

This section discusses the limitations of the current system and future directions in the area of ITS for electrical circuits.

User interface design and usability study: The main advantage of the current user interface is robustness and its behaviour can be modelled as a noiseless channel, i.e. the computer stores what the user intended as input. However, this system does not resemble the natural environment in which students normally study, i.e. pen and paper on which circuits and calculations are carried out. Indeed studies in a college-level algebra class have indicated that handwriting mathematical equations

21   Muscat *et al.*

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enhances the student learning experience.[22] However, the output from a computer vision (CV) based system will undoubtedly be noisy. We therefore propose the use of a limited CV system that acts as a 'rough or scribbling paper' and simply adds extra information to the procedural attentive module. The student will still use the keyboard and mouse system to enter final textual answers and circuits.

The use of Natural Language Processing (NLP) for user-machine communications: In the current system the student is required to learn the commands to successfully communicate with the eTutor. This system of communications is completely unnatural in addition to introducing an extra hurdle to the student. The obvious solution is to integrate NLP technology not only to improve the human-machine interface but also to facilitate machine learning from an appropriate corpus of electrical circuit textbooks. In this respect it may be advantageous to make use of *chatbot* technology as in the experiments reviewed above.

Use of machine learning for the eTutor to learn the domain knowledge, that is electrical circuits analysis: In the current system the domain knowledge is hard-coded. As discussed by Muscat[23] most of the computational methods to solve electrical circuits are not suitable for an eTutor since it is either not possible to trace the steps in analysis or the method itself has no resemblance to methods learnt in class. It follows that the suitable methods are those that rely on the application of a sequence of rules that are defined separately. The latter approach requires reasoning which has so far been hard-coded into the software. The challenge is to let the machine learn the atomic rules and reasoning that connects the rules together in context. This is in contrast to the current trend in visual question answering systems.[24] These systems learn how to answer questions by correlating questions to answers and it is still unknown whether such systems can learn the atomic rules in circuit analysis, which are needed for a system that answers questions through reasoning and understanding. It is therefore important to find a representation of circuits and associated descriptions that enable the explicit learning of the atomic rules.

22   L. Anthony, J. Yang, K.R. Koedinger, 'A paradigm for handwriting-based intelligent tutors', *International Journal Human-Computer Studies*, 70 (2012), 866–87.

23   Muscat *et al.*

24   S. Antol, A. Agrawal, J. Lu, M. Mitchell, D. Batra, C. L. Zitnick and D. Parikh, 'VQA: Visual Question Answering', *International Conference on Computer Vision*, (2015) 2425-2433

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Don Giuseppe Zammit detto 'Brighella' – vita, opere e rapporti con la realtà italiana e maltese dell'Ottocento

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Abstract: Don Giuseppe Zammit detto "Brighella" non è noto oggi come lo era nei suoi tempi soprattutto perché scrisse poesie occasionali di tono minore che furono poi dimenticate con il passare degli anni. Lo scopo di questa ricerca è di fissare le tappe più importanti della sua vita: nascita, infanzia, gioventù, primo amore, studi, presbiterato, prime pubblicazioni, studi a Roma, il ritorno e la ripresa dell'attività letteraria e giornalistica, il carcere, la sua fama come poeta latino e italiano, la vecchiaia, la sua morte e le sue connessioni con l'Italia e con la realtà storica, sociale, politica, religiosa, letteraria di Malta sotto gli Inglesi nell'Ottocento. Si cercherà anche di elencare le sue pubblicazioni, libri, giornali in latino, italiano e maltese che gli procurarono il nome di poeta famoso. Si vedrà anche quanto questo scrittore prolifico fosse intelligente e aperto a tutte le influenze del suo tempo di Malta e dell'Italia e quanto fosse impegnato quando lodò o criticò persone importanti dei suoi tempi. Molti suoi lavori sono sparsi in giornali e spesso non sono firmati ma fortunatamente il manoscritto 33 della Biblioteca maltese e il manoscritto "In Hebreos" della collezione del Cavaliere John Frendo Azopardi contengono raccolte ampie delle sue poesie italiane. Inoltre esiste un libro di cento sonetti tronchi dedicati ad un certo Pasquino. Esaminando la sua produzione in italiano si nota che il poeta è collegato alla tradizione letteraria italiana contemporanea. Nei suoi scritti notiamo che la sua posizione ideologica si manifesta sempre a favore della dottrina cristiana, del gesuitismo, dell'antiliberalismo, del papismo e del nazionalismo. È sempre accanito contro gli esuli italiani, Garibaldi e Vittorio Emmanuele II e si schiera contro la corruzione delle istituzioni dell'Ottocento maltese. Alcune poesie che saranno citate e analizzate sono i sonetti *Ritratto dell'Associazione Patriottica, Ad un predicatore insulso – che fece la predicina di S. Antonio,* un altro contro Gaspard le Marchant, il governatore

inglese, un sonetto contro Don Marforio *(Quod superest date pauperibus),* i cento sonetti contro Pasquino, in cui ricalca *Li Tre Giuli* di Giambattista Casti, fra cui i numeri LX e C che ricordano il Petrarca, il XXXIV che menziona il tema famoso della libertà di stampa, il LXXXIV, un' invettiva feroce, e il XLVII che ricorda Rustico da Filippo. Inoltre troviamo stilemi danteschi ed alfieriani in *O stupidi costumi imperversanti.* Interessante l'inno *A nostra donna del Carmelo* e *A Sant'Elena imperatrice* che si possono inserire nella tradizione arcadica e manzoniana. Ci sono inoltre le poesie amorose, fra cui *L'invito,* una canzonetta arcadica con modulazioni metastasiane, rulliane, frugoniane e montiane. Va notato che durante la sua vita e anche anni dopo la sua morte, per molti anni Zammit fu noto come il più grande umanista maltese.

Keywords: Don Giuseppe Zammit, "Brighella", poesie italiane.

Don Giuseppe Zammit, detto 'Brighella', nacque a La Valletta il 22 aprile 1802 da Andrea Zammit e Rosa Rioli.[1] Ricevette 'una sana educazione' e 'mostrò grandissima inclinazione alla poesia' quando era ancora di tenera età.[2] Inoltre, 'trilustre appena lo troviamo già schiccherare versi nell'italica loquela'.[3] Imparò i segreti del verso latino da Don Luigi Rigord, latinista e letterato, autore della breve iscrizione in latino posta sul monumento eretto a Londra in memoria dell'ammiraglio Nelson. Prima di compiere trent'anni studiò retorica e filosofia e si laureò in giurisprudenza laureandosi *Juris Utriusque Doctor*. Si innamorò di Nina, di cui fu maestro, e poi fu ordinato presbitero diocesano il 31 giugno 1833. Insegnò retorica al Seminario Arcivescovile dal 1833 fino al 1836.

Zammit si dedicò alla poesia e al giornalismo. Spesso scrisse poesie occasionali, di cui fu senz'altro maestro assoluto, in latino, italiano, e maltese per poi pubblicarle nei suoi periodici. Molte volte non firmava, ma il suo stile mordace si riconosce facilmente. Ci sono due lati psicologici complementari del suo carattere: quello serio che produce poesie encomiastiche e religiose e quello umoristico che dà origine alla sua produzione satirica o scherzevole. Fu un promotore fedele della dottrina cristiana, del gesuitismo, dell'antiliberalismo, del papismo, e

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1   Collegiata di San Paolo Naufrago, Valletta, Archivio battesimale, Vol. XIV, 197, 23 aprile 1802.
2   *Crepuscoli*, Anno IV, 14 aprile 1890, no. 34–5, articolo anonimo.
3   V. F. Azopardi, *Malta letteraria* Vol IV (1929), 34.

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del nazionalismo. Non fu mai un campione dell'italianità di Malta e secondo lui la strada da perseguire era quella di ottenere concessioni dal governo coloniale per quanto riguardava materie religiose e di riformare quelle istituzioni caratterizzate dalla corruzione.

Fra il 1838 e il 1839 pubblicò il giornale *Brighella* che lo rese famoso per tutta la vita come satirista e autore di poesie scherzose e satiriche. Nell'ottavo numero troviamo un *Dialogo Etimologetico fra Arlecchino e Brighella* in cui il nostro derivò il proprio nomignolo da *brigo, as, avi, atum, are* che significa 'far briga, far imbrogli, raggiri'. Nel quindicesimo numero dello stesso giornale ricorda come lui sudava sui grossi volumi per studiare all'Università mentre la sua Ninetta 'fralle belle bella, di sua pulcritudine facea vaga comparsa quì (sic) per terra, qual suole lassù la luna fra le minori stelle'. Il poeta parlerà appunto di questa Nina nelle sue poesie amorose e non si vergogna di scrivere del suo primo amore, la bella Nina che lui ha amato verso il 1831, prima di farsi prete. Le poesie a cui si riferisce si trovano da pagina 445 a pagina 486 del manoscritto 33 della Biblioteca Nazionale di La Valletta. Forse non ci si aspetta di trovare poesie del genere soprattutto perché erano sconosciute anche ai contemporanei di Zammit. Però, non stupisce affatto che un prete dall'indole così forte e sincera abbia scritto dieci odi amorose che seguono da vicino la tradizione romantica del continente, rivolta ormai da mezzo secolo all'effusione sentimentale.

Nel 1839 pubblicò *Carmina Phaonias* che contiene la traduzione in latino della versione in italiano del *Principe de Francavilla* napoletano delle poesie in greco di Saffo. Diede alla luce anche un altro libro, *Carmina,* 112 distici satirici diretti a varie persone sotto pseudonimo. Pubblicò anche un numero unico di *Bertoldu* in cui si scaglia contro l'alfabeto usato dalla *Kaulata Maltia*.

Intanto Zammit andò a Roma presso i Gesuiti per perfezionarsi in Teologia, pubblicò una lettera diretta al vicario generale di Malta insieme con una *Ritrattazione sul Brighella ed alcuni altri suoi scritti* in cui troviamo una pubblica confessione in cui afferma che lo scopo delle sue satire era di 'vendicar se stesso di quelle persone, contro cui era mal affetto'.[4] Due anni dopo si dimise e ufficialmente fu certificato

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4   L'originale manca nella Biblioteca Nazionale di Malta ma c'è una ristampa in *Risorgimento ossia nuovo corriere mercantile del 24.11.76* (anno 1, no. 68)

di soffrire di malattia pericolosa.[5] Però, non possiamo non notare che lui visse una lunga vita e scrisse prolificamente. Fu conseguentemente noto come 'abate', tornò a Malta e riprese la sua attività con il vigore di prima. Continuò ad abitare a La Valletta con suo fratello che era magistrato. Dopo la morte di questi, Zammit si spostò a Birkirkara.

Dal 1842 al 1846 diresse l'organo ufficiale dei Gesuiti a Malta, *L'Osservatore Maltese*, che aveva lo scopo di frenare l'impertinenza e l'empietà degli anti-gesuiti e si dimostrava nemico degli esuli italiani e dei 'giacobini maltesi'. Dal 1842 al 1843 pubblicò *Diogene* che definiva i liberali 'setta malvagia' che muoveva 'al ciel perfida guerra'. Nel numero unico de *La Zanzara* (1844), riferendosi agli esuli, affermò che in Italia 'non ci stanno che galantuomini' poiché 'la feccia[6] è tutta sparpagliata' e 'una parte ne sta a Malta'.

Nel 1846 pubblicò *Sonetti dell'abbate Giuseppe Zammit* in cui attaccò l'ambizione, l'avarizia, e l'ignoranza di un certo Pasquino, una persona difficilmente identificabile. L'ispirazione per questi cento sonetti tronchi gli venne da *Li Tre Giuli* (1763) di Giambattista Casti.

Nel 1847 Zammit diede alle stampe ben sei fogli: *Il Cattolico Maltese*, *L'Impertinente – Foglietto bizzarro*, *Baron Bertoldu Acconcia – Mondo*, *Plutone – foglietto straordinario*, *Il Cattolico*, e *Scannabue Redivivo ossia La Frusta – giornale patriottico e letterario*. Due anni dopo Angelo Zuliani fondò *L'Ordine – giornale politico – letterario – religioso* che fu per qualche tempo diretto da Zammit. Nel 1850 pubblicò *Il Hatar,* un foglio dai chiari intenti satirici. Un anno dopo Zammit fu accusato di aver attaccato il Sacerdote Souchet (e l'Associazione Patriottica Maltese) nelle sue qualità private e di aver pubblicato parole ingiuriose nel foglio *L'Ordine* del 14 settembre 1850. La Corte Criminale presieduta da Sir I.G. Bonavita lo condannò a quattro mesi di carcere, tre dei quali redimibili con otto lire sterline. Il frutto di questa esperienza amara furono le poesie satiriche in italiano (la prima versione) e in latino (la seconda versione) contro Bonavita che si trovano nel manoscritto 1257 della Biblioteca Nazionale e che furono pubblicate dopo la morte di Zammit da Antonio Dalli nel periodico *Melita* (1892).

Nel 1852 Zammit riprese la sua attività giornalistica con *Brighella – Foglietto Politico serio-scherzevole*. Dedicò il foglio a Bonavita,

5   Archivio dei PP Gesuiti di Roma, Borgo Santo Spirito, 5.
6   La parte peggiore.

contro cui usa toni forti e si prefigge di 'dire la verità'. Fu però colpito dalla censura vescovile e dovette cessare la pubblicazione.

Nel 1858 l'illustre latinista Diego Vitrioli gli dedicò quattro distici in latino in cui dichiarò che Zammit aveva raggiunto il livello di Marziale. Due anni dopo Zammit scrisse l'epigrafe che fu collocata sotto la statua di San Paolo sull'isolotto che porta il suo nome.

Altri periodici in cui scrisse o che diresse Zammit sono *Bertoldu* (1861) e *Il trionfo delle verità – foglio religioso, politico, letterario* che aveva lo scopo di difendere la religione e il papa. Attaccò 'i pretesi liberaloni', Garibaldi e Vittorio Emanuele e lodò i Gesuiti.

Nel 1864 uscirono le due parti del volume *Carmina et inscriptiones*, una raccolta accurata fatta dall'autore delle poesie e delle iscrizioni latine scritte negli anni precedenti.

Tre anni dopo compose due quartine autobiografiche che spiegano molto bene la povertà in cui viveva:

Ah invan invan Canonico
A far brindisi m'inviti
Gli anni miei son già compiti
E non posso più cantar.

Con quaranta scudi all'anno
E che vuoi che io canti ormai?
Mille lire e più tu hai
Lascio a te di poetar.[7]

Però, se è vero che finanziariamente aveva dei problemi, questo fatto non influì minimamente sulla produzione letteraria che continuerà fino al 1889, un anno prima della sua morte.

Pare anche che dal 1867 al 1870 il nostro avesse scritto certi articoli diretti contro il vescovo Pace, apparsi nel foglio *Appello Al Tribunale Infallibile della Pubblica Opinione – Giornale Politico – Giuridico – Legale – Patrio.*

Nello stesso anno il professor Paolo Cesareo, nell'*Omaggio al fu Dr. Gio Antonio Vassallo Professore di letteratura italiana*,[8] scrisse che questi 'ebbe fortunatamente ottimi maestri fra' quali il chiarissimo Abate Dr D. Giuseppe Zammit, ornamento vivente della lingua del

7   Dal manoscritto 'In Hebreos' 79, che si trovava nella collezione privata del Cavalier Giovanni Azopardi.
8   Biblioteca Nazionale di Malta, BC. 5.34 ext.

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Lazio ed onore della patria nostra. Questo spiega l'uso di costrutti latineggianti rivestiti dell'idioma maltese da parte di Vassallo nella sua piccola epica *Il-Ġifen Tork.*

Nel 1870 Zammit pubblicò *Alla Gran Vergine Maria invocata sotto il titolo della dottrina nella S. Ins. Col. Mat.e Par. Chiesa di Bichircara fra solenni riti e manifestazione di pubblica gioia il dì 29 maggio 1870.*[9] Da notare l'uso dei latinismi ed il linguaggio lapidario, nonché forme devozionali della tradizione biblica già rivissuta dagli arcadi e dai manzoniani. Simile a questo inno è un altro dedicato a San Nicola di Bari nel 1872.[10]

Sei anni dopo Zammit pubblicò il terzo volume di poesie e iscrizioni latine intitolato *Carmina et Inscriptiones* che contiene alcune composizioni che si possono contare fra le migliori conosciute. Qui troviamo poesie dedicate a persone illustri, poesie contro italiani che sostenevano che Malta facesse parte dell'Italia, poesie che celebrano Bacco e altre ancora. Ripubblicò anche la ritrattazione del 1839.

Nel 1884 Brighella chiese di ricevere una pensione. Ormai era ridotto male finanziariamente e non aveva parenti che potessero aiutarlo.[11] Gli fu accordata una pensione annua di 100 lire sterline.

Intorno al 1885 ricevette una medaglia d'oro accompagnata da una lettera di congratulazioni da Leone XIII a cui aveva mandato copia dei suoi lavori in latino.[12] Ottenne anche un diploma e una medaglia d'oro nell'Esposizione Coloniale di Londra[13] e un'altra nel 1887 per una bella elegia latina dettata in occasione del Giubileo della regina Vittoria.[14]

Nello stesso anno Zammit pubblicò uno dei suoi ultimi epigrammi latini[15] in cui afferma che anche se povero, vince ogni male componendo poesie. Due anni dopo pubblicò la sua ultima poesia dedicata a Leone XIII,[16] un'epigrafe latina posta sotto il ritratto del Papa.

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9   Biblioteca Nazionale di Malta, Miscellanea 600 (no. 201)
10   Ibid., (no. 187).
11   Despatches to the Secretary of State, no. 7781, lettera no. 118.
12   Vincenzo Frendo Azopardi in *Malta Letteraria*, Nuova Serie, Anno VI (1931), 3.
13   Articolo anonimo nei *Crepuscoli* Anno IV, 14 aprile 1890, no. 34–3.
14   Frendo Azopardi.
15   In *Crepuscoli* (Anno II, 15 ottobre 1887).
16   In *Malta a Leone XII osia breve memoria delle feste celebrate in Malta nel giubileo Sacerdotale del Santo Padre scritta per ordine di sua Eccellenza Riverendissima Mons Fra Antonio Buhagiar Vescovo di Ruspa amministratore apostolico di Malta da Sac. Dr Luigi Farrugia Seg. Vescovile.*

Prima di morire, Zammit donò il ritratto che raffigura il nostro nel fior degli anni alla chiesa collegiata e parrocchiale di Birchircara.[17] Sotto il quadro c'è un'epigrafe di ignoto autore che commemora Zammit.

Il 14 febbraio 1890 Zammit morì di vecchiaia a Birchircara, in strada Vallone, davanti alla chiesa dei Teresiani. Fu sepolto nel coro della chiesa di Sant'Elena. Il cavaliere Emmanuele De Benedictis[18] scrisse questa testimonianza:

> *Ottimo sacerdote esemplar cittadino*
> *Fu decoro della sua Melita:*
> *Di mente acuta*
> *Ornato di studi profondi*
> *Docente illustre*
> *Ebbe famigliari i classici*
> *Ed eccelse nella lingua del Lazio*
> *Onde i più dotti in essa*
> *Lo proclamaron Maestro.*

A questo giudizio va aggiunto che Zammit fu anche ottimo poeta in italiano[19] e anche scrittore satirico in maltese. Intanto un suo biografo[20] lo definisce come il 'più grande umanista maltese'.

Fra le più belle poesie dello Zammit troviamo:

> <u>*Ritratto – dell'Associazione Patriottica (maltese)[21]*</u>
>
> *Ciurma di saltimbanchi democratica,*
> *Pitocca,[22] miserabile, frenetica,*
> *Ignorante, bestial, sciocca, salvatica,*
> *di un succido[23] <u>Avvenir[24]</u> pseudo-profetica:*

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17   G. Mizzi, 'Spigolando fra documenti inediti (Sec XVII–XIX)', *Melita Historica* Vol. 5, No. 1 (1968), 53 et seqq.
18   *Crepuscoli*, 243.
19   Si veda soprattutto il MS 33 della Biblioteca Nazionale di Malta per alcune fra le più belle poesie di Zammit.
20   Vincenzo Frendo Azopardi in *Malta Letteraria*, Nuova Serie, Anno VI, no1, gennaio 1931.
21   Biblioteca Nazionale di Malta, MS 33, 301.
22   Meschina, povera.
23   Sporco, sozzo.
24   Il periodico dell'Associazione Patriottica.

Truppa di disperati, empia, scismatica,
Irreligiosa, scellerata, eretica,
più pestilente della lue[25] *asiatica,*
e puzzolente più della zaffetica.[26]

Setta che chiesa e Papa sprezza e critica,
Invidiosa, livida, malotica,[27]
Piena il petto di bile antigesuitica:

Vile generazion, schiatta scariotica,[28]
ciurmaglia anticristiana, antipolitica;
Ecco l'Associazione Patriottica.

Si notano l'accumulazione di aggettivi, la rima grammaticale o desinenziale e il ritmo incalzante della critica contro l'associazione di cui il poeta era nemico fierissimo, e le accuse espresse con un linguaggio forte e plebeo.

Significativo stilisticamente è il secondo di una corona di sette sonetti contro Gaspard le Marchant,[29] il governatore inglese:

Messer Marforio, che sei de Comitibus,
O de' Baroni, ovvero de' Marchionibus,
I'amo finir le cose sine litibus
E senza molte ciance e absque sermonibus;

Siì ciò che vuoi fra nobili e divitibus,
Fra patriarchi e regi e fra demonibus:
Che cosa giova a te se ne' capitibus
non hai che l'acqua sol de macheronibus?

25   La sifilide.
26   Gomma fetida, sostanza resinosa, amara, dalle radici di una pianta asiatica: si usa in medicina.
27   Che gode del male altrui.
28   Stirpe simile a Giuda.
29   Bibliotheca Nazionale di Malta, MS 33, 358.

E imporre tu ci vuoi colle tue legibus
Segno solo di star in mezzo a bovibus
O ad altre animalesche torme e gregibus?

Deh! vanne co' tuoi titoli e nominibus
E con quel tuo baston di porci ed ovibus
Impara a trattar bene cogl' hominibus.

Si notano l'uso del latino classico mescolato al latino maccheronico e all'italiano, il tono satirico e scherzoso, la rima desinenziale e l'apostrofe canzonatoria nei confronti di una persona di alto rango sociale che il poeta accusa senza tanti scrupoli.

Terribile è questa invettiva di sapore dantesco contro un certo Don Marforio, intitolata *Quod superest date pauperibus*[30] (Ciò che avanza date ai poveri), anche se il tono è pseudo-canzonatorio:

O San Matteo, che mai facesti là
Nel tuo vangel, non so se al capo Tre?[31]
Scusa il disturbo ed abbi la bontà
di correggerlo, ed eccoti il perché.

Dicesti che quel che di più sen va
A' poveri donar tutto si de':
Ma Don Marforio più della metà
Si va mangiando e tienilo per sé.

Metà! – Esso s'ingoia due terze (sic) e più,
Ingrossa i suoi nipoti quanto può,
Già ricolmi di argento e di bigiù.[32]

I poveri scancella dunque e di'
Che dar si dee a' nipoti tutto ciò
Che resta, e il tuo Vangel fia buon così.

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30   Ibid., 435.
31   In verità si tratta di Luca 11,41.
32   Francesismo per *gioielli*.

Si vedono qui l'apostrofe a San Matteo, la sferzata contro Don Marforio, le rime tronche, l'enjambement, e il francesismo *bigiù*. Il clericale Brighella assume i modi tradizionalmente violenti dell'anticlericalismo.

Nel Sonetto VIII del libro dei cento sonetti contro Pasquino, Zammit scrive:

> *Ombra onorata di monsù l'Abbé,*
> *Anima grande, cui l'egual non v'ha,*
> *Dolcissimo cantor de' Giulii tre,*
> *Cui colle grazie Amor sul labbro sta;*
>
> *Quelle tue vive fiamme accendi in me*
> *E l'estro tuo caldissimo mi dà*
> *Ond'io possa cantare al par di te*
> *D'un seccator che disperar mi fa.*
>
> *Eccelso spirto, cui vedemmo qui*
> *Nostra patria onorar, di tue virtù*
> *Ammiratori negli andati dì;*
>
> *Deh contro il mio Pasquin mi ajuta tu...*
> *Crisofil tuo non fu crudel così:*
> *Mi si attaccò, né vuol lasciarmi più.*

Qui si vede che la fonte di ispirazione per Zammit di scrivere cento sonetti tronchi fu senz'altro Gian Battista Casti con i suoi duecento sonetti, 'I Tre Giulii'.

Nel Sonetto XVI il nostro riferisce di nuovo direttamente al Casti:

> *Ardua è l'impresa, ed io pur ben lo so,*
> *Volendone imitar monsù l'Abbé,*
> *Che düecento intieri schiccherò*
> *Sopra il debito suo de'Giulii tre.*
>
> *Se quegli dunque ebbe sì gran virtù*
> *Da far dugento con facilità,*
> *Di te io non farò novanta e più?*

Invece nel Sonetto LX Zammit ricalca il Petrarca anche se, devoto cultore di Orazio, il poeta maltese ebbe certo presente l'anafora 'pone me ... pone' dell'Ode XX del libro I:

> Pommi a insegnare a' putti il B A, Ba,
> Oppure a fare il paggio, ossia 'l lacchè,
> Pommi a servire una crudel beltà
> Senza ch'io m'abbia mai premio e mercé.
>
> Pommi nell'India, oppur dal Gange in là,
> Fra i barbari d'Algeri e di Salé,[33]
> Fra il gel d'inverno, o fra 'l calor d'està,
> Fra branchi, pruni e spine in Gelboé.[34]
>
> Pommi ove chiaro mai non splende il dì,
> Ov'orma d'uomo mai non si stampò,
> Al vento, al sole esposto sempre lì.
>
> Pommi ove vuoi, purché non vegga più
> Il ceffo[35] tuo, che più veder non vo':
> Il diavolo, Pasquin, per me sei tu.

Nel Sonetto XXXIV abbiamo un documento storico che tratta la libertà di stampa concessa a Malta dagli Inglesi:

> Vedi un poco, Pasquin, che cosa fa
> Quella che non avemmo insino qui
> E che tu non volesti libertà
> Di stampa, e che alla fine comparì!
>
> Tu senza d'essa non saresti già
> Reso immortale e nobile così
> Da esser cantato ognor per la città,
> E vivere ne' più remoti dì.

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33   Città del Marocco.
34   Monte della Palestina.
35   Viso brutto.

Cessa dunque, Pasquin, deh cessa orsù
Di dir mal della stampa: dappoiché
Per mezzo di essa non morrai mai più.

T'alzò già sino al cielo, ma non perciò
T'insuperbir; che ancor lassuso v'è
Il cane, il cancro, lo scorpione e il bo.

Una delle poesie più interessanti dello Zammit, perché differente dalle altre, è 'L'Età Presente'.[36] In questo sonetto troviamo il poeta impegnato in una satira non più personale ma generica e più vicina all'abito sacerdotale del *castigat mores* (correggitore di costumi) che però non ride. In questo contegno un po' predicatorio il poeta utilizza stilemi danteschi e alfieriani:

O stupidi costumi imperversanti,
O miseranda etade, o tempi infami,
In cui regnano solo gl'ignoranti,
E i buon giaccion avviliti e grami!

Al fondo se ne sta chi non ha santi,
Benché fremendo e bestemmiando esclami:
Gli stupidi e i malvagi vanno avanti
ergendosi superbi dai letami.

Ma che ti giovan tanti gridi tuoi,
Se è sordo il cielo alla tua lamentanza,
E altro non ode che il muggir de'buoi?

E Fede e Carità non han più stanza
In questa trista età quaggiù fra noi,
Mentre fallace sol regna Speranza.

Nelle poesie amorose Zammit segue da vicino la tradizione romantica del continente, rivolta ormai da mezzo secolo all'effusione sentimentale:

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36   Biblioteca Nazionale di Malta, MS 33, 423.

L'invito[37]

Come? vuoi tu ch'io canti
L'amore mio tradito?
Non corrisponde il core
All'amoroso invito.

La mia virtude è languida,
Né più mi ferve l'estro:
Oh me infelice e misero
Perché fui tuo maestro?

Solo per mio gran danno
Lo fui o ingrata Nina:
Or vivo sì, ma vivo
vita la più meschina.

Vivo fra pene e spasimi
Qual prigionier d'amore:
La speme solo restami
in mezzo al mio dolore.

Speme ... E chi sa se meco
Fino alla tomba resta,
e meco ancor vedrolla
Vana sparire e presta?

E vuoi ch'io canti? – Ah! come
Sciorrò la lingua al canto:
Mi dà, se il plettro io tocco,
suon di sospiri e pianto.

L'abbandonata penna
Presi più volte in mano.
Ma il mio pensier mi eluse
E lo tentai invano.

37   Ibid., 445 et seq.

Invan tentai di esprimere
Di tua beltà la lode,
Ché allor prevalse e vinse
Del reo tuo cuor la frode.

Tempo fu già che lieto
Ebbi ispirato il core:
Ma or che mi è avverso il fato
Non so cantar d'amore.

Tempo verrà che reduce
Tu mi amerai qual prima:
E oh come presta e facile
Mi tornerà la rima.

Tempo verrà che i mesti
Lugubri miei lamenti
Si cangeranno in dolci
Grati amorosi accenti.

O tempo a me dolcissimo
Tanto da me bramato,
Quando fia mai che amico
A me ti renda il fato?

Sleale Nina e barbara,
Deh! Soffri ancora poco,
Forse il cuor riaccendeti
Per me d'amore il foco.

E poi riconfortato
Prendo la penna in mano:
Eh! che non fia più mutile
Né il tenterò più invano.

La canzonetta arcadica non sfugge ad alcuni luoghi obbligati della poesia galante sia per la tematica (l'ingratitudine, l'abbandono, il desiderio di morte, l'insufficienza della parola a contenere la passione) sia per il lessico (virtude, spasimi, prigionier d'amor, il reo tuo cuor, amorosi accenti, quando fia mai, sleale e barbara) chiaramente derivato da modulazioni metastasiane, rolliane, frugoniane, montiane. La struttura psicologica della canzonetta, in bilico tra memoria e speranza, si basa sulla sapiente utilizzazione della prospettiva diacronica (tempo fu già... tempo verrà) per concludersi con un sospirato tempo dolcissimo in cui sembra vibrare tutta l'ansia sentimentale del poeta.

Mario Debono studied in Malta and Florence, graduated in Italian and Maltese and then specialised in Italian, presenting a thesis on Don Giuseppe Zammit known as "Brighella". He conducted linguistic research and analysed the orthographic errors made by Maltese students in a dictation and composition in Italian. He delivered lectures on culture and literature, conducted seminars on language for forty-two years and published papers of a literary nature. He collaborated in an anthology of Italian texts and questions for Maltese students. He conducted literary programmes on Campus FM, the University Radio. He is also a singer-songwriter in Maltese, won five times the festival *L-Għanja tal-Poplu*, a prestigious song festival. He also participated in the *Convegno Mediterraneità europea* by singing two original songs.

The Impact of Technostress on Personal Well-Being – an Analysis of Individual and Group Differences

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Abstract: This paper is about the impact and extent of technostress on the lives of people, taking into account individual and group differences. A questionnaire was designed from data collected from 34 one-to-one interviews conducted in 2016. Seven hundred and sixty participants completed the questionnaire, together with the General Health Questionnaire which assesses a person's self-reported quality of mental health. Preliminary results indicate that there are significant differences between groups in a variety of aspects in relation to specific aspects of technology which are linked to stress as well as general mental health.

Keywords: Technostress, general health questionnaire, gender, age, family

Technological advances have undoubtedly led to advantages in the quality and frequency of communication.[1] However, a dark side seems also to have emerged. In fact, the idea of 'technostress' implies that the use of technology can also be stressful.[2] This may be due to overuse and addiction to easily available equipment such as smartphones and tablets.

One of the factors that seems pervasive in the literature is the issue of gender differences in the use of technology. Broos[3] suggested

1   M. Tarafdar, A. Gupta, & O. Turel, 'The dark side of information technology use', *Information Systems Journal*, 23(3) (2013) 269–75.
2   C. Brod, *Technostress: The human cost of the computer revolution* (Boston, 1984).
3   A. Broos, 'Gender and Information and Communication Technologies (IT) Anxiety: Male

that, faced with a new medium such as the Internet, males were more enthusiastic and tended to develop more positive attitudes towards it. On the other hand, females take a longer time to become familiar with and consequently take a longer time to develop positive feelings for new technology. Wang and Wang[4] indicate that service providers are more likely to be successful if they promote their technologies firstly to male users. Once these users perceive that the technology is beneficial and decide to adopt it, they may use their social influence to encourage their friends and to facilitate the extension of the service. These authors also found that effort expectancy was a stronger determinant of intention for women than for men. Women tend to care much more about technological effort expended in the early stages of a new behaviour.

It has been noted that most studies so far have focused on professional workers who use technology extensively at work. Most studies on the subject are quantitative in nature and tend to examine the effects of technostress on individual outcome variables, namely job satisfaction and stress, and organizational variables, such as reduced efficiency. This paper addresses the research gap by developing a quantitative measure based on a qualitative study[5] to examine the effects of technostress on quality of life as well as to examine demographic differences which could be useful in organizational decision-making. Preliminary results on the differences between various demographic groups are being reported in this paper.

Methodology

In the first phase of the study, 34 adult working participants from all walks of life were interviewed.[6] Data were analysed using thematic analysis,[7] and the themes elicited were used to design a specific

self-assurance and female hesitation', *Cyberpsychology & Behaviour*, 8(1) (2005), 21–31.

4   H. Wang & S. Wang, 'User acceptance of Mobile Internet based on the unified theory of acceptance and use of technology: investigating the determinants and gender differences', *Social Behavior and Personality*, 38(3) (2010), 415–426.

5   G. Catania & K. De Giovanni, 'The Effect of Technostress on Work-Family Balance', Paper presented at the British Psychological Society Division of Occupational Psychology Conference, January 2017.

6   Catania & De Giovanni.

7   V. Braun & V. Clarke, 'Using thematic analysis in psychology', *Qualitative Research in*

questionnaire to measure self-reported indicators of technostress. The questionnaire consisted of three different sections: The Demographic Section; The Technostress Measure Section; and the 12-Item Measure of the General Health Questionnaire.[8] All the questionnaire items save those in the Demographic Section were scored on a fixed-response Likert-type Scale. The questionnaire also contained a short information letter explaining the purposes of the study and emphasizing anonymity and confidentiality of the data obtained. Consent to answering the questionnaire was deemed to be granted if the respondent chose to reply to the questions set.

Preliminary data analysis and results

A preliminary look at the results revealed significant differences according to the demographics. Some of the demographic items had to be regrouped and recoded after obtaining the raw data. The Demographic Section contained questions on the following variables: gender, locality, job/profession, number of hours at work, number of children, number of hours per day using technology, and highest qualification attained. For the Technostress Questionnaire the Likert Scale was scored as follows: 1 = 'Strongly Agree'; 2 = 'Agree'; 3 = 'Disagree'; 4 = 'Strongly Disagree'. For the General Health Questionnaire, the Likert Scale was scored as follows: 1 = 'Better than usual'; 2 = 'Same as usual'; 3 = 'Less than usual'; 4 = 'Much less than usual'.

Gender
Results using the Independent Samples T-Test for Gender indicated gender differences on the following items:

'Have you recently been able to concentrate on whatever you're doing?' (P = 0.038; Mean Males = 2.21; Mean Females = 2.32);

'Have you recently been losing confidence in yourself?' (P = 0.004; Mean Males = 2.47; Mean Females = 2.27);

'Technology makes me feel anxious' (P = 0.013; Mean Males =

Psychology, 3(2) (2006), 77–101.

8   D.P. Goldberg & P. Williams, *The user's guide to the General Health Questionnaire* (Windsor, 1988).

2.78; Mean Females = 2.62);

'Technology makes me feel relaxed' (P = 0.006; Mean Males = 2.46; Mean Females = 2.62);

'I feel that I am up to date with technology' (P = 0.003; Mean Males = 2.14; Mean Females = 2.33).

Locality of residence

For these results, the raw data was simplified to two categories, namely participants residing in Malta and those residing elsewhere. Results using the Independent Samples T-Test indicated differences on the following items:

'Have you recently felt that you could not overcome your difficulties (P = 0.043; Mean Malta = 2.16; Mean Non-Malta = 2.36);

'By means of a mobile phone I can communicate instantly with everyone else around the world' (P = 0.046; Mean Malta = 1.39; Mean Non-Malta = 1.52);

'Online messages include body language' (P = 0.000; Mean Malta = 3.06; Mean Non-Malta = 3.37);

'Technology helps me to be more efficient' (P = 0.007; Mean Malta = 1.82; Mean Non-Malta = 2.04);

'I prefer to use technology than to communicate face-to-face' (P = 0.000; Mean Malta = 2.94; Mean Non-Malta = 3.35);

'By means of technology I can keep abreast of current events' (P = 0.001; Mean Malta = 1.53; Mean Non-Malta = 1.74);

'Technology has helped me to feel closer to my friends' (P = 0.000; Mean Malta = 2.10; Mean Non-Malta = 2.55);

'Technology has helped me feel closer to my family' (P = 0.023; Mean Malta = 2.52; Mean Non-Malta = 2.75);

'Technology makes me feel relaxed' (P = 0.004; Mean Malta = 2.54; Mean Non-Malta = 2.77);

'I prefer texting than talking (P = 0.000; Mean Malta = 2.98; Mean Non-Malta = 3.37).

Job/profession

This category was split into nine different groups, namely 'Elementary Occupations'; 'Managerial and Administrative'; 'Professional'; 'Retired'; 'Unemployed'; 'Student'; 'Service and Sales'; 'Arts and Media'; and 'Other'. Significant differences through One-Way ANOVA, the Student Newman Keuls, or the Least Significant Difference Post-Hoc Tests were attained for the following items:

'Have you recently been able to concentrate on whatever you're doing?' (F = 2.983; P = 0.003; 'Mean Elementary Occupations = 1.73'; 'Mean Managerial and Administrative = 2.16'; 'Mean Professional = 2.20'; 'Mean Retired = 2.25'; 'Mean Other = 2.38'; 'Mean Student = 2.39'; 'Mean Service and Sales = 2.40'; 'Mean Arts and Media = 2.43'; and 'Mean Unemployed = 2.56'). Significant differences are reported between those working in Elementary Occupations and those who declared to be unemployed.

'Have you recently been able to face up to problems' (F = 3.082; P = 0.002; 'Mean Elementary Occupations = 2.18'; 'Mean Managerial and Administrative = 1.79'; 'Mean Professional = 2.07'; 'Mean Retired = 2.25'; 'Mean Other = 2.31'; 'Mean Student = 2.12'; 'Mean Service and Sales = 1.88'; 'Mean Arts and Media = 1.86' and 'Mean Unemployed = 1.80'). Results for this item show that there are significant differences between Managerial and Administrative when compared to students, professionals, and those classified under other. Students also scored significantly lower than those working in services and sales.

'Have you recently been losing confidence in yourself?' (F = 1.821; P = 0.070; 'Mean Elementary Occupations = 2.09'; 'Mean Managerial and Administrative = 2.43'; 'Mean Professional = 2.46'; 'Mean Retired = 3.25'; 'Mean Other = 2.08'; 'Mean Student = 2.25'; 'Mean Service and Sales = 2.29'; 'Mean Arts and Media = 2.00'; and 'Mean Unemployed = 2.25'). Results here indicate that that those who declared to be retired had a significantly higher level of confidence than the remainder of the participants.

'Technology does not allow me to rest' (F = 2.004; P = 0.044; 'Mean Elementary Occupations = 2.18'; 'Mean Managerial and Administrative = 2.48'; 'Mean Professional = 2.53'; 'Mean Retired = 3.00'; 'Mean Other = 2.77'; 'Mean Student = 2.32'; 'Mean Service and

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Sales = 2.46'; 'Mean Arts and Media = 2.29'; and 'Mean Unemployed = 2.88'). Results indicate that professionals perceive that technology does not significantly allow them to rest when compared to students. The unemployed also scored significantly higher than students and those working in elementary occupations.

'I prefer to use technology than to communicate face-to-face with people' (F = 3.944; P = 0.000; 'Mean Elementary Occupations = 2.09'; 'Mean Managerial and Administrative = 2.86'; 'Mean Professional = 3.09'; 'Mean Retired = 2.75'; 'Mean Other = 2.62'; 'Mean Student = 3.02'; 'Mean Service and Sales = 3.08'; 'Mean Arts and Media = 2.86'; and 'Mean Unemployed = 3.63'). Results indicate that the mean for the unemployed group shows that this group significantly prefers to use technology than other and elementary occupations subgroups. The mean for elementary occupations indicates that this group significantly prefers to use technology when compared to students, those working in services in sales, professionals, and unemployed.

'By means of technology I can communicate with my old friends' (F = 2.086; P = 0.035; 'Mean Elementary Occupations = 1.55'; 'Mean Managerial and Administrative = 1.89'; 'Mean Professional = 1.70'; 'Mean Retired = 2.00'; 'Mean Other = 2.00'; 'Mean Student = 1.86'; 'Mean Service and Sales = 1.73'; 'Mean Arts and Media = 2.29'; and 'Mean Unemployed = 1.56'). Those working in Arts and Media scored significantly higher than professionals, those working in services and sales, elementary occupations, and the unemployed.

'Technology has helped me feel closer to my family' (F = 2.354; P = 0.017; 'Mean Elementary Occupations = 1.91'; 'Mean Managerial and Administrative = 2.35'; 'Mean Professional = 2.66'; 'Mean Retired = 2.75'; 'Mean Other = 2.38'; 'Mean Student = 2.62'; 'Mean Services and Sales = 2.48'; 'Mean Arts and Media = 3.00'; and 'Mean Unemployed = 2.44'). Results for this item indicate that those in elementary occupations score significantly lower than those who work in the arts and in the media.

Number of hours at work

This category was also divided into two subsections, namely those who spend 40 hours or more at work, and therefore are essentially full-time

workers, and those who are unemployed or who work part-time. There were no significant differences for any of the items on the technostress questionnaire but there were significant differences on two of the items of the General Health Questionnaire. These items were as follows:

'Have you recently felt capable of making decisions about things?' (P = 0.040; Mean working under 40 hours = 1.96; Mean working over 40 hours = 1.83)

'Have you recently felt constantly under strain?' (P = 0.027; Mean working under 40 hours = 2.06; Mean working over 40 hours = 1.84).

Number of children

This variable was divided into four different categories and a one-way ANOVA together with Student Newman Keuls and Least Significant Difference Post-Hoc Tests were used. The categories were those without children, those who have 1 child, those with 2 children, and those with 3 children (no participants reported having more than 3 children). Significant differences were found for the following items:

'Sending online messages and SMSs created misunderstandings' (F = 5.490; P = 0.001; Mean no children = 2.00; Mean 1 child = 2.14; Mean 2 children = 2.26; Mean 3 children = 2.47). For this item, a significant difference was indicated between participants with no children and those who had 3 children.

'I prefer to use technology than to communicate face-to-face' (F = 3.061; P = 0.028; Mean no children = 3.00; Mean 1 child = 3.02; Mean 2 children = 3.09; Mean 3 children = 2.41). Participants who declared to have 3 children significantly preferred to use technology than the other participants.

'I prefer texting than talking' (F = 4.211; P = 0.006; Mean no children = 3.07; Mean 1 child = 2.82; Mean 2 children = 3.16; Mean 3 children = 2.71). For this item, those declaring to have 2 children under their care significantly showed less preference to text than those who declared to have 3 children under their care.

'I feel that I am up to date with technology' (F = 3.591; P = 0.014; Mean no children = 2.20; Mean 1 child = 2.29; Mean 2 children = 2.48; Mean 3 children = 2.47). Those with 2 children significantly indicated

that that they felt less up to date with technology than those with no children.

Number of hours per day using technology

This variable was divided into two different categories: Those who used technology for 10 hours or less and those who used technology for 11 hours or more. An independent samples T-test yielded the following significant differences between these two groups on the following items:

'Have you recently felt that you were playing a useful part in things?' (P = 0.007; Mean 10 hours or less = 1.99; Mean 11 hours or more = 2.19)

'Have you recently been able to face up to problems?' (P = 0.029; Mean 10 hours or less = 1.99; Mean 11 hours or more = 2.13)

'Have you recently been feeling reasonably happy all things considered?' (P = 0.007: Mean 10 hours or less = 1.97; Mean 11 hours or more = 2.17)

'Technology helps me to be more efficient' (P = 0.049; Mean 10 hours or less = 1.87; Mean 11 hours or more = 1.75)

'I prefer to use technology than to communicate with people face-to-face' (P = 0.037; Mean 10 hours or less = 3.05; Mean 11 hours or more = 2.88)

'I feel that I am up to date with technology' (P = 0.005; Mean 10 hours or less = 2.33; Mean 11 hours or more = 2.12)

'Technology allows me to work all the time' (P = 0.000; Mean 10 hours or less = 2.29; Mean 11 hours or more = 2.02)

Highest qualification attained

For this variable, a one-way ANOVA with Student Newman Keuls and Least Significant Difference Post-Hoc Tests were used. There were five categories for this variable: Group 1 = O levels and Secondary School; Group 2 = A levels; Group 3 = Diploma; Group 4 = Degree; and Group 5 = Masters' and Ph.D. The following items yielded significant differences between groups:

'Sending online messages and SMSs creates misunderstandings' (F = 3.674; P = 0.006; Mean O levels and Secondary School = 2.31; Mean A levels = 1.98; Mean Diploma = 2.21; Mean Degree = 2.04; Mean Masters' and Ph.D. = 2.16). Results indicate that those in both the A levels and Degree groups scored significantly differed from those in the group with O levels and Secondary school level of education in that they thought that sending online messages and SMSs created more misunderstandings.

'Online messages include body language' (F = 4.247; P = 0.002; Mean O levels and Secondary School = 2.86; Mean A levels = 3.29; Mean Diploma = 3.07; Mean Degree = 3.21; Mean Masters' and Ph.D. = 3.08). For this item, those with O levels and Secondary school level of education were significantly more likely to think that online messages included body language than those who attained a degree and those who attained their A levels.

'Technology has helped me feel closer to my friends' (F = 2.616; P = 0.034; Mean O levels and Secondary School = 2.04; Mean A levels = 2.22; Mean Diploma = 2.18; Mean Degree = 2.23; Mean Masters' and Ph.D. = 2.48). Results indicate that those with O levels and secondary school level of education indicated that technology has significantly helped them to feel closer to their friends than respondents with a Masters' and/or Ph.D.

'I prefer texting than talking' (F = 2.711; P = 0.029; Mean O levels and Secondary School = 2.85; Mean A levels = 3.17; Mean Diploma = 2.94; Mean Degree = 3.15; Mean Masters' and Ph.D. = 3.13). Results indicate that those with O levels and a secondary level of education scored significantly indicated that they preferred texting to talking than those with A levels and those with a degree. Those with A levels scored significantly worse than those with a diploma.

Discussion and preliminary conclusions

The aim of this study was to examine the effects of technostress on quality of life. With technology being such an essential and wide-spread phenomenon, it is important to consider both positive and negative effects that this phenomenon might have on workers and

their personal lives and to find specific ways in which these can be addressed. Preliminary results indicate that there are gender differences in the effects of technology. Males seem to be significantly less able to concentrate and more prone to losing confidence in themselves. Males also declare that technology makes them feel significantly more anxious than females.

Statistical differences between Maltese residents and foreigners seem to indicate that, on the whole, the Maltese are more positive where it comes to technology. In fact, there was only one item on the General Health Questionnaire for which those residing outside of Malta seemed more resilient, namely the item which asked about overcoming difficulties. Maltese people generally indicated that they perceived that technology helps them to be more efficient, that they prefer to use technology than to communicate face-to-face, that they could keep abreast of current events, that it helps them to feel closer to friends and family, that technology makes them feel relaxed, and that they prefer to text rather than talk.

With regard to type of job or profession, those working in elementary occupations seem to be significantly better able to concentrate on what they are doing compared to the unemployed. Those working in services and sales as well as those in managerial and administrative occupations seem to be better equipped to face up to problems compared to other occupations. Retired persons had a significantly higher confidence in the use of technology when compared to participants performing other jobs. Professionals perceive that technology does not allow them to rest compared to students. The unemployed indicated that technology did not impede their rest periods compared to students and those working in elementary occupations. Results also indicate that the mean for the unemployed group shows that this group significantly prefers to use technology rather than communicating face-to-face with people when compared to the other and elementary occupations subgroups. Those working in the arts and the media seem to be significantly less inclined to use technology to communicate with their old friends when compared to professionals, those working in services and sales, elementary occupations, as well as the unemployed. Furthermore, those in elementary occupations significantly perceive technology to have helped them to feel closer to their family.

Our research in relation to the number of hours spent at work did not yield many significant results. However, this could have been because of the way the data was organized. Those working for more than 40 hours were significantly more capable to make decisions and also felt less constantly under strain.

The number of children under care yielded surprising results. In fact it seems that communicating through technology with children does not create misunderstandings. Sending online messages and SMSs significantly created fewer misunderstandings for those having 3 children than those with no children. Participants who declared to have 3 children also prefer to use technology than to communicate face-to-face compared to the remainder of the participants. Those declaring to have 2 children under their care significantly showed less preference to text than those who declared to have 3 children under their care. Furthermore, participants with 2 children felt the least up to date with technology than those with no children. However, since the study did not collect information about the ages of the children, a confounding variable could be at work here. It is not clear whether the age of the children has an effect on these results.

With regard to use of technology, results were quite predictable. Those who worked 11 hours or more felt significantly better at being a useful part of things, declared to be more efficient, prefer to use technology than to communicate face-to-face with people, feel more up to date with technology which allows them to work all the time. On the other hand, this subgroup felt less significantly able to face up to problems and felt less reasonably happy.

Results indicate that those in both the A levels and degree groups significantly agreed more to the fact that online messages and SMSs create misunderstandings than those in the group with O levels and Secondary school level of education. This latter group significantly agrees more with the fact that online messages include body language better than those who attained a degree and those who attained their A levels. The same group also feels that technology has helped them feel closer to friends compared to those with a Masters' and Ph.D. Moreover, this group also declared that they prefer texting to talking compared to those with A levels and with a degree.

The above results indicate that organizations need to be more aware on how their employees are using technology both at the workplace and also outside working hours. During working hours, it might be the case of enforcing discipline with regard to social media in certain workplaces. Another issue is the promotion of the safe use of technology by means of the organization of workshops or training sessions aimed at informing employees on the use and misuse of technology as well as giving frequent tech-free breaks.

Limitations and suggestions for further research

While the sample size for the study was very large, the fact that convenience sampling, rather than random sampling, was used might indicate difficulties in the generalizability of the results. Also, the psychometric characteristics of the newly designed Technostress Measure have not yet been determined.

Further research could involve the determination of psychometric properties of the Technostress Measure, including determining test-retest reliability and the underlying facture structure through exploratory and confirmatory factor analysis. The significant results from this study can also be used to design studies to investigate in more detail the particular differences between different demographic groups' acceptance of technology and the possible effects of the use of technology.

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Changing Image of the University of Malta Library: New Roles, Challenges, and Services

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Abstract: Up to a few years ago, the Library was perceived as a study place with books, a simple on-line catalogue and access to electronic databases. With the implementation of an integrated discovery tool, investing in a vast number of online resources and pushing forward the concept of open access publishing, the Library has become a central hub of dynamic research for the academic community, connecting with students at different stages of their courses, academics, and support staff. It strives to keep up with current trends and emerging technologies to ensure that users' needs and expectations are catered for.

In May 2012, the Library set up an Outreach Department to establish and maintain an on-going partnership with faculties and students, attend to queries about the Library, and implement marketing strategies to promote new services and resources made available to users.

This paper provides an insight of how the Library's role has changed during the past 5 years and what challenges are being faced in a rapid changing and dynamic information landscape.

Keywords: Outreach**,** library marketing, academic libraries

In earlier days, libraries functioned as archives, collecting and preserving material without disseminating it. With growing demand for information, the role of the archives developed, giving the beginning to institutions that not only stored the records but also organized them and provided access for a wider number of users. The

setting up of first libraries dates back to the 3rd millennium BC, when people began to use clay tablets. At first, libraries were mostly associated with palaces and temples where scribes created official documentation and religious records; with time, library collections grew to include works of science, art, and philosophy.[1]

According to Oxford English Dictionary a library is:

A building, room, or set of rooms, containing a collection of books for the use of the public or of some particular portion of it, or of the members of some society or the like; a public institution or establishment, charged with the care of a collection of books, and the duty of rendering the books accessible to those who require to use them.[2]

With the ongoing development of science and technology, the Library has become more than just a room filled with books for the use of public. Considering the University of Malta Library as an example, this article will be providing some insight of how the University Library's role has changed through time focusing mostly on the past five years, giving an overview of new initiatives and services offered by the Library from the point of view of the Outreach Department.

University of Malta Library: brief introduction

The University of Malta was founded in 1592 by the Jesuits and primarily set up as *Collegium Melitense* to teach philosophy, theology, grammar and humanistic studies.

The beginnings of the University of Malta Library are dated back to 1769, when Pope Clement XIV authorized the establishment of the University of Studies. Together with the establishment of the University, all property of the previous school, including book collections, was transferred to the new institution. In 1953, the University appointed the first professionally qualified Librarian – Ġuże Cassar Pullicino. A year after, purchasing new stock and creating a proper catalogue made

1 F. Estabrook, L.S. Foskett, J. Douglas and S. Haider, 'Library', *Encyclopaedia Britannica*, 12 May 2017: http://www.britannica.com/topic/library (accessed 31 October 2017).
2 'Library, n.1'*, Oxford English Dictionary*, June 2017: http://www.oed.com.ejournals.um.edu.mt/view/Entry/107923 (accessed 31 October 2017).

possible the setting up of a new library in the Valletta building. In 1967, the Library was transferred to the newly built block and its current location – the University Campus in Msida. Since then, the Library has developed, slowly introducing new services, starting with creating the reference section and, a year after, the Melitensia collection. That year it also introduced Library of Congress classification which is still used today.

In 1991 the Library started implementing automated services, such as the library software Adlib, and in 1992, an on-line Library catalogue OPAC – an online public access catalogue which enabled users to browse Library print resources remotely. Soon after, the Library opened branches at the Institute of Health Care at Guardamangia and in Gozo. In 1995, the Library building was extended and the Junior College branch library set up.

In 2000, the Library made a step towards gradual migration to electronic resources and journals. Nowadays it is hard to imagine the Library without subscriptions to the vast amount of electronic journals and databases available. In 2009, it upgraded its management software to Ex Libris-Aleph 500 which allowed smoother running of day-to-day activities and services. In April 2010 it implemented an online bibliographic management software – RefWorks and, in 2011, users were introduced to the e-Library, a meta-search engine that allowed users to browse its online resources and search in up to ten databases simultaneously.[3]

Following the rapid development of services, growing amount of queries and change in patrons' needs, in May 2012 the Library set up the Outreach Department, once again changing its face, from an institution providing resources to University staff and students, to an institution actively participating in the academic life, accommodating users' needs and assisting its patrons.

The Library has almost 70 members of staff working in 11 departments and 6 branch libraries, constantly striving to keep up with the dynamic University community.

3   M. Poulton, 'Library across the years', *The Library*, 11 April 2012: http://www.um.edu.mt/ library/about/library_across_the_years (accessed 31 October 2017).

New face of the University of Malta Library: The Outreach Department

The creation of the Outreach Department marked not only improvement and implementation of new services but also a change in perception of the role of the Library and librarians themselves. The Library stopped being only a building filled with books and study spaces and became an active member of the academic community. Librarians understood that investing large amounts of resources in on-line subscriptions to journals, databases and new software will not be effective if there is no one to make use of them. The Library had to take action and emerge from its safe space, having realized that only by reaching out, can users be invited in.

The Outreach Team consists of three members of staff and its main role is to set up on-going communication with students, academics, and other University entities to effectively market the Library resources and initiatives. The team also provides constant assistance and support via phone, emails, face-to-face, and by conducting training workshops. The department is responsible for managing the Library website, Facebook page, and organizing various events.

Before the Outreach Department was created, there was only one person assigned to carry out all these tasks. With the growing amount of work, two other team members were added, creating a full-time Outreach Team.

Academic libraries have relied on patron dependence on library print collections to attract users to their services. The introduction of greater electronic access to research materials, use of online reference utilities, and diverse user needs have caused many academic libraries to re-examine outreach efforts to their campus and community patrons. For some libraries, this initiates an exploration of new marketing and public relations activities.[4]

That was what University of Malta Library had to do; get to know its users and their needs and create an action plan to support them. The task was not easy; outreach was quite a new concept in the library field

4   C.A. Fabian *et al.*, 'Multiple Models for Library Outreach Initiatives'*, The Reference Librarian*, vol. 39, no. 82 (2004), 40.

in Malta and the department had to find the way to approach this new concept and effectively engage patrons.

The starting point was to get the word out, trying to reach out to academics, students, and support staff by sending emails and contacting students' organizations. Outreach set up collaborators could opt whether they would like to be included in this list. Outreach had to find an alternative way to reach out to students by sending the notices, first to administrative staff who could forward the correspondence to all students within a department, institute, or centre. Keeping up with students' organizations also proved difficult, since their members change on a yearly basis, often without any handover from the previous administration.

Another challenge was to come up with initiatives to promote Library services and create promotional material: none of the Outreach team had any experience in design. In 2013 the Library set up its official Facebook page to reach out to young users who spend most of their time on-line. The three librarians had to become teachers, marketing experts, customer support, and designers.

Tasks overview

One major task of the Outreach Department is to provide training on how to use the Library resources, which mainly involve e-Library (until October 2013), HyDi, and RefWorks. The number of workshops has increased on a yearly basis. In 2013 the Department delivered 73 workshops on RefWorks and 48 workshops on HyDi targeting 1,653 students, while in 2016 the numbers increased to 85 RefWorks and 100 HyDi workshops with total of 2,299 participants. Apart from the HyDi and RefWorks workshops, the Department is also responsible for organizing library tours, one-to-one training sessions, database training workshops, and other information sessions for students. Outreach also collaborates with the KSU (Kunsill Studenti Universitarji) to organize biyearly information literacy workshops for staff and students. These workshops are organized in collaboration with the Registrar office and IT Services and a member of the academic staff. The workshop covers subjects

like consequences of plagiarism and how to avoid it, demonstration on Turnitin (plagiarism detection software), referencing, and finding and evaluating information. In comparison with 2013, when Outreach delivered a total of 219 workshops to 2,257 users, in 2016 there were 364 sessions delivered to 4,689 patrons.

In 2014, the Department started a close collaboration with the Junior College Library and the Systems of Knowledge (SOK) Department at the Junior College. The purpose of this collaboration was to organize information literacy workshops to all first-year students to prepare them for their SOK project and to familiarize them with research requirements before entering University. The workshops were delivered at the beginning of 2015 by the Outreach Team with the help of Junior College librarians. Presentations included tips on how to find, evaluate, and use the information. Following positive feedback, the presentation was amended and from 2016 the sessions were entirely delivered by the Junior College librarians.

Since the target audience at the Junior College varies from the one at the University, the Junior College Library decided to set up their own Outreach Team to reach their patrons and cater for their needs. Also, since the Junior College is targeting pre-University students, it is important that they are given a proper introduction before commencing University courses.

Currently, the Junior College Librarians are issuing their own newsletter, *BOOKMark*, where librarians, academics, and students can publish their articles. They also organize seasonal book displays at the library, including the famous blind date with a book in February for Valentine's Day. Students are encouraged to participate in Book Club meetings and they are given an opportunity to showcase their artwork inside the Library.

Facing challenges

Changing the image of the Library requires constant work from all staff members. Breaking the stereotype of the Library as a dusty place filled with books and the stereotype of librarians became part of a job.

What is one of the greatest challenges libraries must combat to show the public that libraries still matter? It is knocking down stereotypes that are embedded in people's minds that libraries are musty book depositories where a 40 something year old middle aged woman is behind the desk 'ssshhing' any disturbances that are louder than a whisper. But for anyone who has ever worked in a library, they know libraries go beyond books.[5]

Librarians have come to realize that all of them form the 'face' of the Library and, despite the efforts made by the Outreach Department, each staff member needs to reach out to engage users. The main challenge was, and still is, to understand patrons. Being a librarian is one thing; however, seeing things from the point of view of a student/academic could put things into perspective. In order to get to know its users and bring them closer to the Library, Outreach is constantly conducting research, usually in the form of the questionnaires.

So far, Outreach has conducted two major surveys. The first one took place in April 2013. Its aim was to evaluate the Library services, in order to identify the facilities that need improvement to render a better service, which was relevant to the users' needs and expectations.

A total of 1,150 respondents filled in the questionnaire. Some key points which resulted from the survey were that the majority of patrons visit the Library to study, conduct research, read dissertations, and borrow books. Most comments featured a request for further access to journals, subscriptions to databases, more books, better control of noise levels in the silent study areas, and more study space.

A slightly different survey was conducted in 2016 to identify users' opinions regarding the use and awareness of online resources, the purpose of consulting the online resources, and the overall users' experience. A total of 765 people responded.

The results showed a major misconception when it came to basic terminology; 90% of the participants were aware of the existence of electronic journals, 87% knew about electronic articles, but only 59% were aware of electronic databases. It was baffling that users knew about journals and articles but lacked knowledge of databases since they had to access the database first in order to browse through the journal content or read an article.

5   https://www.likedin.com/pulse/overcoming/library-stereotypes-alessandro-russo/ (accessed 31 October 2017).

It also appeared that 87% (670 participants) actively used HyDi for their research, but only 54% used databases. What was most surprising was that almost 66% (504 participants) were still using Google for their academic research.

This brought Outreach to the conclusion that more focus should be placed on promoting databases as another information source, but also that Outreach should educate library users to help them better understand definitions and the concept of journals and electronic databases.

In response to the survey results, the Outreach Team started working to promote databases by introducing the element of information literacy at the start of each HyDi workshops where students can learn the difference between articles, journals, and databases. The Team also prepared subject-oriented emails recommending the use of particular databases for each faculty. Since 73% of participants specified that they would like to receive information about Library resources via e-mail, this became the main channel of promotion.

Understanding patrons allows librarians to cater better for their needs, whilst trying to make services more engaging and accessible. Another challenge that is constantly faced is to encourage students and researchers who do not usually visit the Library to make use of its resources and services. It is not easy to convince users that the Library resources will add value to their projects, especially when they have never visited the Library and have based all their research on Google.

Both from survey results and experience, it transpired that many students will not use the Library unless encouraged by their tutors. Outreach has to make constant efforts to make academics aware about recent subscriptions, on-going projects, and training opportunities. At the beginning of each semester, the department sends emails to all academics encouraging them to organize training workshops for their students, while creating tailor-made sessions for specific courses targeting their respective needs. All sessions are held in computer labs at the IT Services Building where each student has access to a computer for hands-on practice. Twice a year, Outreach sends information about recent database subscriptions to all academics. Emails are divided by subjects and prepared separately for each faculty. It is of extreme importance that academics are always up-to-date when it comes to

recent Library initiatives and subscriptions since they can pass on their knowledge to students and encourage them to use the Library resources.

Maintaining a good relationship with academics allows the Library to advertise its services by word of mouth: one of the most effective marketing strategies is where satisfied customers recommend services to prospective users. Many people ask if it's even necessary to market libraries, mistakenly thinking that if someone needs research material, they will always find their way to the nearest library; however, with the growing amount of fake news, hoax websites, and untrustworthy information, it is the librarian's duty to guide users and teach them how to reach and use the best possible resources. That is why libraries have to remain active members of their communities, using marketing to showcase their resources but also encourage patrons to seek the help of qualified personnel who is always willing to help them.

What the future holds

The University of Malta Library has certainly experienced major developments within the past few years. With a strengthened position and increased visibility, it can push towards other projects.

Currently the Library subscribes to over 64,000 electronic journal titles from almost 90 databases. In 2016 the number of downloads of individual articles exceeded 400,000, which clearly demonstrates that e-journals are among the most heavily utilized resources. Every year the Library invests its resources into acquiring new titles and expanding its collection. The year 2017 marks the implementation of a new library management software – ALMA, which brings new possibilities and improvement to services already offered, like modernizing and improving the current HyDi interface and the future implementation of a Reading List solution – Leganto, which will help academics build reading lists for their courses, simultaneously assuring that the required material is present at the Library and, if not, automatically processing requests to the Acquisitions Department to purchase the missing items.

Another major on-going project is the creation and maintenance of OAR@UoM, the first and only institutional repository in Malta which

collects, preserves, and disseminates the intellectual output of the University. The repository was launched in September 2014 and to date over 17,000 items have been deposited. Until the beginning of 2017, the Outreach Department was responsible for organizing training workshops and market the repository; however, with the approaching implementation of the University of Malta Open Access Policy and increased demand for uploading material, the Open Science Department has been created to provide qualified staff to assist academics with any Open Access related queries, depositing their material, and providing guidelines towards copyright clearance. The Open Science Department is also responsible for increasing awareness of Open Access and OAR@UoM by promoting the repository and any Open Access initiatives with the assistance of the Outreach Department. The University of Malta Library is also responsible for the Electronic Theses and Dissertations (ETDs) project where all undergraduate and postgraduate theses produced by UM students are prepared as text-based PDF files and deposited on OAR@UoM.

Changing the image of the Library from a book depository, to an active, professional, modern, and user-friendly institution requires constant work from all members of staff; however, this is possible only with the joint effort of different library departments and academics. The Library does a lot to get the message across; however, for the message to reach students, academics must get involved. Students are aware of Library initiatives, services, and workshops but most of them will not make use of them unless they have been recommended or requested by their lecturer. By working together, the Library and academics will reach more students and help them become independent and competent researchers.

The visibility of the Library across the University has definitely improved and, as a result, this offers a number of opportunities for the implementation of new projects and solutions, increasing users' satisfaction, and generating more positive feedback, encouraging future patrons to make use of the services, and bringing librarians satisfaction in their work. In the future, the Outreach Department is planning to expand its workshops' portfolio and develop information literacy workshop that could be offered during DegreePlus as an officially recognized course that could enrich students' CV. This requires time and careful preparation but, seeing prompt development and bright future ahead, the Library is ready for next challenges.

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Relazioni di coppia e scrittura: uno studio grafologico comparato sulla compatibilità e sulle modalità d'integrazione tra partner

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Riassunto: La grafologia è una scienza che, prendendo in esame le caratteristiche tecniche della scrittura a mano di un individuo, può ricostruirne la personalità e tracciarne il ritratto psicologico. Essa è uno strumento particolarmente utile, perché non soltanto è in grado di mettere in luce gli aspetti razionali del carattere di colui che scrive, ma anche quelli più profondi e intimi di cui egli spesso non è consapevole. Per tale motivo uno degli ambiti più interessanti in cui viene applicata la grafologia è quello della grafologia comparata che, analizzando scritture appartenenti ad individui che hanno una relazione di coppia, può rintracciare le motivazioni che hanno condotto a tale scelta e comprenderne gli elementi di compatibilità e le reciproche modalità d'integrazione.

Parole chiave: grafologia, scrittura a mano, relazioni di coppia, scelta del partner

Abstract: Graphology is a science that, through the analysis of technical features of people's handwriting, can evaluate their personality and develop a psychological portrait. It is a very useful tool to highlight aspects of the writers' nature, not only their rational, but also their inner and deep aspects, they are not always aware of. This is possible because the expert graphologist examines handwriting by using circa 300 features and their mutual interactions.

Among the many areas Graphology can be applied to, this paper will focus on a graphological comparative study of partner handwritings, in order to understand their compatibility and integration modalities. After observing the handwriting of both partners

and developing the individual portrait, the graphologist can consider the compatibility level of their partnership, in order to point out what strong and weak elements shape a couple's relation. In fact sometimes after the phase of falling in love, when the intimacy level grows and both partners show the way they are, it happens that they discover they approach life with different behaviours or aims. These relationship modes can be recognized in their handwriting through graphological techniques and it is possible to help a couple cope with and integrate into their diversities.

For having a view as complete as possible and lighting up on a lot of features and details that otherwise would be unknown, it is also necessary to attentively consider the unconscious element which is involved in choosing partners. In a comparative graphological analysis this can be clearly seen. In fact, partners in a rather unaware way, sometimes choose one another in order to compose some inner conflict still unsolved. In that case, their written texts will show how the integration modalities lay on this kind of choice.

In this study, two kinds of these particular relationships, based on a complementary bond, will be analyzed. The first one resembles a mother-child interaction, providing comfort and protection to a partner by means of an unconditional love from the other partner that does not want anything back. The second kind of relationship belongs to the couples with a partner who looks for and somehow requests gratification or admiration from the other person. Therefore, they will choose as a partner someone with an insecure personality who can show abnegation in return.

This study will also provide examples of handwritten texts with appropriate notes in order to explain some graphological practices, contents and describe what kind of bond really connects partners.

La scrittura a mano è il mezzo che ognuno di noi usa per comunicare in modo intenzionale idee e concetti a dei destinatari. Ma al contempo essa ci consente di esprimere ben altro, perché, mentre scriviamo, imprimiamo ai segni grafici tracciati sul bianco del foglio il sigillo inconfondibile della nostra personalità, facendola diventare, così come la voce o la gestualità, qualcosa che appartiene a noi soltanto e a nessun altro. Nel modo in cui prende forma il filo d'inchiostro che si snoda nel bianco avviene una comunicazione figurata e simbolica, che non ha più nulla di intenzionale. Nel segno prodotto dall'atto grafico, vera sintesi di gesti pensati, che comunicano un contenuto concettuale, e di gesti spontanei e del tutto non intenzionali, che costituiscono una vera e propria comunicazione non verbale, si fondono, in un gioco infinito di

possibili incastri, sia l'attività cosciente dell'uomo sia quella inconscia. È proprio questo il vastissimo campo di indagine della grafologia (dal greco *graphè* = scrittura e *logos* = discorso), uno studio complesso e profondo dal metodo rigoroso, fondato su conoscenze fisiologiche e psicologiche, che si pone come finalità la ricerca dell'essenza dell'uomo.[1] Essendo, quindi, un insieme di gesti sia pensati sia carichi di rappresentazioni inconsce, il segno grafico diviene agli occhi del grafologo una metafora della vita. Per interpretarlo e per decodificarne il codice di contenuti nascosti che esso presenta, egli deve non soltanto acquisire la tecnica grafologica, ma deve saper penetrare anche nel mondo dell'inconscio e cogliere nella scrittura le dinamiche che in esso gli impulsi assumono. Dall'analisi grafologica della scrittura emerge, dunque, l'uomo in quanto persona, con la ricchezza della sua interiorità, il suo mondo affettivo, le sue potenzialità, il tipo di intelligenza, il suo modo di relazionarsi con il mondo, cogliendo tutti quegli aspetti che rendono unico un individuo, pur nella piena consapevolezza che la sua infinita complessità non potrà mai essere svelata.[2]

Quando il grafologo è chiamato ad uno studio comparato delle scritture di due persone che hanno una relazione di coppia, dopo aver redatto il profilo psicologico di ciascuno, passa ad esaminare il livello di compatibilità e le reciproche modalità d'integrazione. Egli, infatti, mettendo in evidenza gli elementi di coesione e al contempo di fragilità della relazione, può aiutare la coppia ad affrontare con maggiore serenità le proprie diversità. Inoltre, come si è detto, poiché la scrittura è il risultato dell'interazione sia di elementi consapevoli sia di elementi inconsci, egli deve porre particolare attenzione anche su questi ultimi per l'importante ruolo che rivestono nella scelta del partner. Spesso, infatti, dopo la fase dell'innamoramento, quando l'intimità aumenta ed entrambi i partner si mostrano in modo più autentico, accade che

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1   Questo studio si basa sul metodo grafologico francese i cui principali testi di riferimento sono J. Crepieux-Jamin, *ABC della grafologia* (Padua, 2001); C. Colo – J. Pinon, *Traité de Graphologie* (Parigi, 2002); J.-Ch. Gille Maisani, *Psicologia della scrittura* (Napoli, 2000); M. Pulver, *La simbologia nella scrittura* (Torino, 1983); R. Saudek, *Psicologia della scrittura* (Padua, 1982); A. Teillard, *L'anima e la scrittura* (Roma, 2017); e R. Pophal, *Scrittura e Cervello* (Padua, 1990).

2   Per cercare di rendere al meglio tale complessità e redigere compiutamente l'analisi di ogni singola scrittura il grafologo di metodo francese utilizza circa 300 parametri nelle loro reciproche interazioni. Per una sintesi delle basi dell'osservazione della scrittura, si veda anche N. Boille, *Oltre il bianco* (Roma, 2010), 43–54.

essi scoprano di avere differenti modi di intendere la vita e differenti obiettivi. Poiché tali elementi possono essere facilmente riscontrati nelle scritture, il grafologo può utilizzare le proprie competenze per aiutare una coppia ad affrontare le proprie diversità. Infatti i partner, senza esserne realmente consapevoli, spesso si scelgono per cercare delle compensazioni e per comporre i loro conflitti interiori rimasti irrisolti. In tal caso le loro scritture mostreranno come le dinamiche di coppia si fondino su questo tipo di scelta.[3]

Una prima considerazione grafologica è relativa al grado di somiglianza ed al grado di diversità di valori che le scritture stesse esprimono. La prima esprime la capacità di comprensione, la seconda la presenza di attrazione. Una relazione d'amore profonda richiederebbe la presenza di entrambe in un delicato equilibrio. Ma quando il grafologo ne rileva una sola può comprendere la natura della scelta del partner: se tra le scritture vi è una grande diversità, essa indica che la scelta del partner risponde ad un principio di compensazione; se invece c'è una forte somiglianza significa che ciascuno dei due partner in qualche modo rifugge da chi esercita su di lui del fascino, ma preferisce avere accanto qualcuno che rifletta come uno specchio le sue stesse qualità ed i suoi valori di vita.[4]

Questo è il caso della coppia che segue le cui scritture (scr. n. 1 e n. 2) mostrano una grande somiglianza.[5] Il filo grafico disegna con un gesto rapido forme piccole e scattanti dai percorsi personalizzati, evidenziando un alto livello di compatibilità per questi coniugi la cui intesa poggia sulle solide basi di una sintonia intellettiva notevole. Ciò indica che entrambi gli scriventi per adattarsi alla vita privilegiano mezzi razionali

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3   Sulla dinamica relazionale delle unioni che, in modo non sempre consapevole, si fondano sul principio della compensazione, cfr. Teillard, 58–60. Altro elemento inconsapevole in una relazione è la proiezione inconscia per mezzo della quale si attribuiscono alla persona amata elementi caratteriali di se stessi che non appartengono affatto ad essa. Elemento, questo, di fragilità per una relazione, perché espone al confronto con la realtà che inevitabilmente mostrerà le reali caratteristiche dell'amato (ibid., 99–105).
    È importante sottolineare che il metodo di lavoro presentato in questo studio è relativo a qualunque tipo di relazione affettiva che presenti una continuità nel tempo, non soltanto eterosessuale (come nelle scritture proposte), ma anche omosessuale.
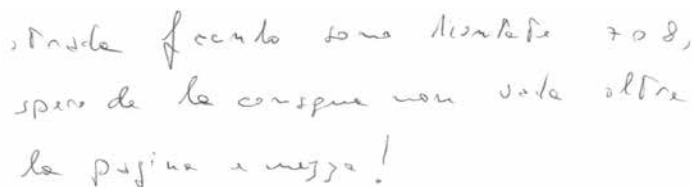
4   Ibid., 58–60. Cfr. anche P. Urbani, *Scegli il partner giusto* (Milano, 2013), 103–14.

5   Le unioni come questa, nate sul principio dell'identificazione, hanno ottime possibilità di riuscita a patto che la maturità dei partner (come in questo caso) sia tale da generare rispetto della reciproca libertà e da evitare che si instaurino competizioni inutili e controproducenti. Cfr. M.S. Focardi, 'Relazioni di coppia', *Grafologia e sue applicazioni*, XXIV (2004), 25–33.
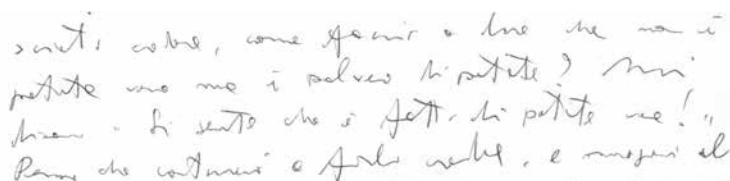
e, come caratteristiche salienti della propria indole, possiedono vivacità mentale, curiosità, brio, intuito, ma anche impazienza e nervosismo. Le difficoltà a cui questa coppia è esposta sono relative al riconoscimento dei reciproci bisogni affettivi che entrambi tendono per natura ad eludere spostandone (senza tuttavia risolverle) le problematiche sul piano della ragione.

Scr. n. 1
Uomo 57 anni – laurea in Filosofia
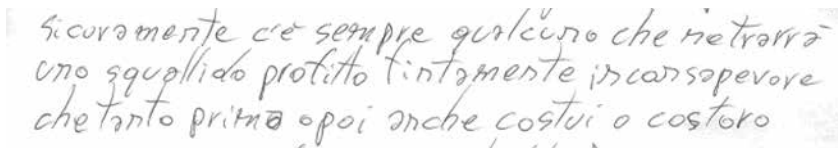
Scr. n. 2
Donna 56 anni – laurea in Lettere

Questo secondo caso, invece, presenta una coppia (scr. n. 3 e n. 4) in cui la scelta del partner è stata operata sulla base di una diversità di fondo e della forte attrazione che tra loro esercitano gli opposti. La scrittura del marito ripropone un modello convenzionale (script)[6] tipicamente adolescenziale ed è corredata da una firma (non riprodotta) in un corsivo assolutamente illeggibile. Elementi caratterizzanti sono, inoltre, le aste verticali tracciate in modo malsicuro che si allungano verso l'alto. Tale quadro complessivo denota una personalità inquieta, ribelle, ancora in cerca della propria identità che insegue, senza però riuscire a raggiungerli, gli ideali in cui crede.

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6 L'uso dello script è da lungo tempo uno dei modelli di riferimento degli adolescenti; A.R. Guaitoli – A. Orlandi, *Ascoltare il segno* (Roma,,1999), 42–48.
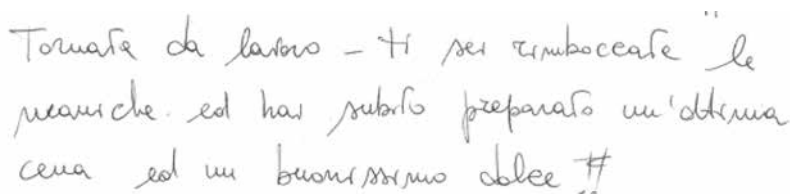
Scr. n. 3
Uomo 43 anni – elettricista

Completamente diversa la scrittura della moglie. Forme morbide, elastiche ed accoglienti, dalle dimensioni contenute, tracciate con una pressione delicata si dispongono nel foglio adagiando le parole con una certa rigidità sul rigo. Elementi, questi, che indicano un'indole sensibile, empatica e al tempo stesso concreta che, malgrado lo sforzo che gli impegni presi le richiedano, cerca di portarli a termine.

Scr. n. 4
Donna 36 anni – infermiera

La dinamica che si instaura tra loro si basa sull'assunzione di ruoli precisi: la moglie ha un ruolo per così dire 'materno' nei confronti del marito, lo ancora alla realtà dei fatti e lo sostiene nella ricerca di identità e da questo ruolo lei si sente, malgrado la fatica che ciò le comporti, profondamente appagata. Il marito, invece, trova in lei il vero punto fermo della sua vita, quello che non aveva trovato nella famiglia d'origine.

Per questa terza coppia, invece, è più difficile, se non impossibile, costruire una solida base (scr. n. 5 e n. 6). Sono anch'essi due opposti, ma tra loro la compensazione è di difficile riuscita, perché al fine di superare le problematiche legate al loro vissuto infantile (molto evidenti in tutte e due le scritture) entrambi dovrebbero impegnarsi in un lungo percorso di crescita interiore. Il temperamento affettivo, ma immaturo di lei, che richiede al partner continue conferme, non trova la giusta

corrispondenza in quello di lui, poco espansivo, ansioso ed insicuro, facilmente influenzabile dall'ambiente circostante in cui si muove con grande circospezione. Le richieste affettive di lei non vengono percepite da lui, mentre i timori e le insicurezze di lui non riescono ad essere ben sostenuti da lei in quanto vissuti come fattori inibitori.

Dal punto di vista grafologico la chiave di lettura delle due scritture è rappresentata dalla forma grafica che evidenzia chiaramente per entrambi una notevole immaturità.[7] Piuttosto infantile e imprecisa quella di lui, adolescenziale quella di lei.[8]

Scr. n. 5
Donna 37 – laurea in Lettere

Scr. n. 6
Uomo 36 – laurea in Fisica

Quello a seguire (scr. n.7 e n. 8) è un esempio di compensazione ben riuscita in cui le scritture si presentano diversissime. Osserviamo la scrittura della moglie. È una scrittura piccola per molti tratti ancora vicina all'imparato con ineguaglianze nella tenuta del rigo e nella dimensione che indicano una personalità ancora legata ad un vissuto

7   La forma grafica rappresenta simbolicamente l'immagine che un individuo ha di sé e dà indicazioni sulle sue scelte, i suoi gusti, il suo livello di cultura (cfr. Colo–Pinon, 117–21).

8   Il permanere di tratti infantili/adolescenziali in una scrittura adulta indica che la personalità si è sviluppata in modo incompleto e che permangono comportamenti in cui tale infantilismo si manifesta. In campo affettivo, come in questo caso, l'individuo ha la tendenza ad avere atteggiamenti di dipendenza dai genitori, di egoismo, scarso senso previsionale, di avidità (cfr. Gille Maisani, 137–40). Sulle scritture infantili, si veda A.R. Guaitoli–E. Manetti, *Identità, scrittura e segni* (Roma, 2005); sulle scritture degli adolescenti, si veda Guaitoli – Orlandi..

affettivo sofferente e non risolto che incide sulla stabilità dello stato d'animo e ad una fiducia in sé piuttosto altalenante. Il gesto procede alternando lo stesso sforzo e la stessa incertezza che la scrivente ha nella vita di tutti i giorni. Osservando, invece, la scrittura del marito si ha la percezione opposta. La scrittura è decisa e volitiva, la pressione affermata, il filo grafico corre veloce, le forme sono talvolta accennate per esigenze di rapidità. È un uomo intraprendente e combattivo che offre un solido appoggio alle insicurezze della sua consorte e grazie alla cui dolcezza e moderazione a sua volta tempera la sua natura impetuosa.

Scr. n. 7
Donna 59 – insegnante

Scr. n. 8
Uomo 62 – avvocato

A volte le scritture mostrano che la ricerca inconsapevole di compensazione attraverso la scelta del partner risponde non solo al desiderio di trovare nell'altro quelle doti in cui ci si sente carenti, ma anche all'esigenza di comporre i conflitti non risolti come risulta evidente nelle scritture della coppia seguente. La dinamica che si instaura all'interno di essa, se da un lato è determinata dall'attrazione reciproca che due personalità tanto diverse provano, dall'altro è il frutto di un desiderio inconscio di un partner di svolgere un ruolo complementare rispetto all'altro.[9]

9   Questa intesa inconscia è nella coppia una sorta di progetto nascosto secondo cui ogni partner venga liberato grazie all'altro dai propri conflitti di fondo; A. Carrano, 'Teoria psicodinamica della coppia', *Grafologia e sue applicazioni*, XXXVII (2008),15–22.

Le due scritture che seguono (scr. n. 9 e n. 10) appartengono ad una coppia che ha trascorso una vita insieme e che ha trovato l'equilibrio in una modalità d'integrazione piuttosto singolare. Osserviamo prima la grafia di lui. Il filo grafico è, malgrado l'età, molto elastico e disegna forme delicate ed accoglienti che denotano sensibilità e disponibilità verso l'altro. Molto differente la scrittura di lei, anch'essa più giovanile rispetto all'età anagrafica della scrivente. La dimensione è grande e in essa predomina la zona mediana delle lettere[10] che spesso si gonfia e ritorna su di sé disegnando forme a conchiglia, arrotolamenti e lacci che denotano un temperamento molto vitale che soprattutto dal punto di vista affettivo richiama (e reclama) continuamente l'attenzione su di sé.

La dinamica che si è instaurata pertanto tra i due è quella legata al soddisfacimento dei bisogni affettivi di lei che richiedono un continuo e necessario appagamento da parte del marito che assume il ruolo di figura accudente che con sollecitudine le dona amore incondizionato assecondandola in tutto e cercando di temperarne gli eccessi e le esuberanze. Una perfetta complementarietà in cui l'attrazione e attaccamento di ognuno dei due partner nascono da un bisogno inconsapevole di svolgere un ruolo complementare l'uno rispetto all'altro.[11]

Scr. n. 9
Uomo 78 anni – ingegnere
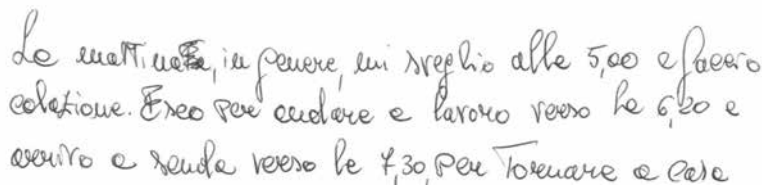
Scr. n. 10
Donna 76 anni – liceo artistico

10   Per zona mediana della scrittura si intende il corpo centrale delle lettere che poggia sul rigo di base e da cui per alcune lettere si dipartono gli allunghi inferiori (come nella 'g') o superiori (come nella 'd') e che rappresenta il fulcro della scrittura la cui qualità ragguaglia principalmente sull'adeguatezza della percezione del proprio Io, Colo – Pinon, 186.

11   Carrano, 15–22.

245
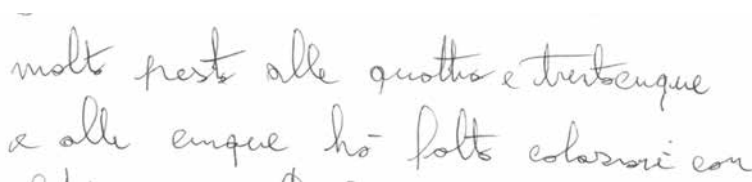
Quello che segue (scr. n. 11 e n. 12) è un altro interessante caso in cui nella scelta del partner ha giocato un importante ruolo il bisogno di comporre i conflitti non risolti attraverso l'assunzione di ruoli complementari all'interno della coppia. La prima scrittura appartiene alla moglie. Il filo grafico disegna anelli, arrotolamenti tipici di chi è fortemente concentrato su se stesso e che assume comportamenti che accentrano (e rivendicano) l'interesse ed attenzione su di sé. Per questo motivo ha scelto di avere accanto qualcuno che, al contrario, non ha un alto senso di sé ed in un certo qual modo trae sicurezza dalla solidità che vede in lei. La scrittura del marito, infatti, si presenta complementare a quella della moglie. Il filo grafico procede in modo incerto, non costruisce forme solide e aumenta verso l'alto gli allunghi delle lettere come la f, la l, e la t. Tale prolungamento indica, nella simbologia evocata dalla scrittura, una tendenza all'idealizzazione.[12] Attraverso di essa, il marito può non soltanto rimandare alla moglie l'immagine che lei stessa desidera avere, ma anche trarre da lei la solidità di cui ha bisogno.

Scr. 11
Donna 45 anni – licenza media

Scr. 12
Uomo 45 anni – licenza media

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12   Ibid., 17–18.

Le osservazioni riportate rappresentano quella sorta di intelaiatura tecnica di base che può mettere in luce le motivazioni che hanno spinto due persone ad intrecciare una relazione. Pur comprendendo l'impossibilità di approfondire in questa sede le numerose e variegate tematiche relative alle relazioni, in questo studio si è voluto offrire un quadro generale delle modalità di lavoro del grafologo al cui aiuto spesso ricorrono le coppie per conoscere i fenomeni profondi che sono alla base dei loro problemi sentimentali.[13]

Simona Esposito is a teacher of Italian and Latin Languages and Literature in a high school in Rome. She graduated in Classical Philology and in Philosophy at "La Sapienza" University in Rome. As a graphologist and registered member of the "Associazione Grafologi Professionisti", she has participated in numerous ongoing-formation courses and has offered talks and presentations regarding her area of expertise. In recent years Dr Esposito has taught graphology in Rome, Naples, Perugia and Cagliari. She is also School Advisor and a forensic handwriting expert with a long experience in analyzing the handwriting of children and teenagers. She is also a handwriting retraining expert and is actively involved in school projects regarding the professional development of teachers and the application of graphological tools to teaching. She has published several papers about these topics in Italian and Maltese scientific magazines or reviews. Dr Esposito is lately been entrusted the task of teaching graphology for post-graduates' modules on teenagers' handwriting at Urbino University.

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13   Teillard, 99–105.

Translation and Interpretation: Building Connections for a Changing World

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Abstract: The technological revolution which accelerated so rapidly with the advent of the Internet, combined the increased mobility of populations, has brought about great changes in international communication. This has led to an increasing demand for translation and for greater intercultural understanding, which in turn has resulted in a proliferation of translator-training programmes. Translators and interpreters are needed to facilitate international exchanges, both commercial and political, and at the same time ever more sophisticated machine-translation programmes are being developed to cope with the growing body of material that requires translation. Unquestionably the role of the translator is changing and the confusion around the terminology of translation reflects growing discomfort with the traditional concept of translation as interlingual transfer.

Keywords: Translation, interpreting, terminology, multilingualism

The twenty-first century is the great age of translation. Millions more people are moving around the planet than at any time in history: some displaced by wars, famine or persecution, some seeking better working opportunities and more economic stability, some simply taking advantage of cheap travel opportunities to explore other places. And as these millions move around, taking their own languages with them, they encounter other languages, other cultural frameworks and other belief systems, hence are compelled, whether consciously or not, to engage in some form of translation. Postcolonial theorist Homi Bhabha has seen this mass movement of peoples as a new emerging global reality, a new international space where great numbers of people have come to live in a state of in-betweenness, endlessly negotiating

between the familiar and the unfamiliar. Translation today is an increasingly human condition and the rapid rise of electronic media has also served to heighten awareness of the importance of communicating across cultures.

According to Susan Bassnett,[1] in the light of this global phenomenon, it is not surprising that translation should have become an object of study in several disciplines and that, since the late 1970s, a new field of research, translation studies, should have acquired so much importance around the world. Major social and economic shifts are directly linked to major epistemological shifts. The increasing awareness of the complexities involved in translation provides a clear example of the impact of major-political changes in the world of academia. More people are moving between languages, hence translating more frequently. Around the world today there are translation agencies that provide translations on commission; translators are trained in universities; they are employed by international organizations such as the European Union, the United Nations, and UNESCO. Translation makes available material across a whole range of cultural activities that would be inaccessible to anyone who does not have access to other languages.

Translation and Interpreting Studies is a discipline which has witnessed unparalleled changes over the last years. One reason for this is the fact that the world market in translation/interpreting barely satisfies a fraction of the demand created by a global economy. New technologies are rapidly transforming the profession and localization is becoming essential. Another equally valid reason is that Translation/Interpreting Studies has pioneered a number of key ideas and concepts, which have proved to be invaluable with regard to the study of cultural exchange in areas as diverse as social sciences, science, literature, drama, history, media, law, comparative religion, and philosophy. Translators and interpreters are needed to facilitate international exchanges, both commercial and political, and more sophisticated machine-translation programmes are being developed to cope with the growing body of material that requires translation. According to O'Hagan and Ashworth[2] the traditional forms of language support we know as translation and

1   Susan Bassnet, *Translation Studies* (New York, 1980).
2   Minako O'Hagan, David Ashworth, *Translation-Mediated Communication in a Digital World: Facing the Challenges of Globalization and Localization* (Clevedon, 2002).

interpretation are faced with new challenges that come from the new contexts for human communication and interactions afforded by technology. The multiplicity of electronic documents defines a new kind of literacy called electronic or digital literacy.

Malta's joining the EU in 2004 propelled the Maltese language into a status of an international language. Language and translation policies needed to be decided on a very pragmatic level: how to recruit translators and interpreters; what translation strategies to adopt; whether the Maltese politicians were to use their own language or a lingua franca, typically English. These questions still remain. Now that many translators have worked in the EU institutions for more than a decade, translation activity has been 'normalized, but there seems to be room for improvement. In interviews I found that the Maltese translators feel like 'a necessary evil'; they are both mentally and physically detached from the drafting processes and their role is often forgotten. This can easily be verified in recent high-level texts concerning the EU's democratic deficit and lack of popular support: in these documents, communication has a central role, but translators and interpreters are not even mentioned, although it is mainly through them that the EU communicates.

Bryne[3] and Baker[4] acknowledge the importance of technical translation nowadays, with the former asserting that it currently amounts to 90% of the world's total translation. The popularity of technical translation nowadays can be attributed to the increasing number of international institutions, such as the EU, which set out directives and legislation requiring texts to be translated in a number of official languages as well as a surge in international cooperation. In addition, as claimed by Baker, in the present globalized information society, there is a higher demand for 'product specifications, instruction leaflets' and 'user guides' in different languages. Technical translation differs from literary translation in that it places added constraints on the translator. Like literary translators, technical translators require sound knowledge of both source and target languages, but the latter must also have a basic understanding of the subject at hand. In Wright's terms, a technical

3   Jody Bryne, *Technical Translation: Usability Strategies for Translating Technical Documentation* (Dordrecht, 2006).
4   Mona Baker, *In other words: a coursebook on translation* (New York, 1992).

translator needs 'at least an informed layman's (or even journeyman's) understanding of the subject field treated by the text'[5].

Terminology must be established, but also implemented, monitored, and updated to make sure it meets the needs of its users. Yet, most importantly, terminology needs to be standardized, so as to make communication, as well as translation and interpretation, easier and more efficient. At present, numerous international organizations make terminology easily accessible and, as Cabré[6] points out, a great deal of language terminology planning is underway. This is not only beneficial in terms of precision and efficiency but it also aids in creating terminological standards, especially since many international organizations work in unison nowadays.

We live in a multilingual world. In international cooperation, we can either use one language or adopt a number of official languages. French was the language of international relations for about three hundred years till the end of the First World War, when English was adopted as the second official language of the Paris Peace Conference in 1919. The EU is the only international organization where the languages of all member states have the status of an official language. This was established in the very first regulation (amended after each enlargement) adopted by the Council of Ministers in 1958. The regulation makes it clear that the member states themselves decide which languages should be the official and working languages of the institutions. The treaties also lay down the principle of multilingualism and state that every citizen of the Union may write to any of the institutions or bodies in one of the official languages and receive an answer in the same language. In practice, the right to use one's own language is guaranteed through translation and interpretation. As societies are becoming more multilingual, the technological revolution has brought about major changes in communication, both locally and internationally. The expansion of translation technology has led to changes in translator training programmes in such fields as machine translation, dubbing and subtitling, and internet translation. These areas tend to draw upon communication studies, language engineering, and applied linguistics

5   Sue Ellen Wright, *Scientific and Technical Translation* (Amsterdam and Philadelphia, 1993).
6   Maria Teresa Cabré, *Terminology:theory, methods and applications* (Amsterdam and Philadelphia, 1999).

rather than upon literary and cultural studies. According to Jorge Diaz-Cintas,[7] one of the principal researchers into audiovisual translation, audiovisual translation is an interdisciplinary field in its own right and, just as film and media studies seceded from literary studies in the 1970s, so we are now witnessing a shift towards audiovisual translation becoming another field of research independent from translation studies. As Michael Cronin suggests, globalization could not happen without translation!

Today, however, the language arrangements of EU meetings vary considerably, depending on the status of the meeting, the requirements of the delegates, and resources available. This involves a balancing act between the principles of equality, respect for diversity and democracy, and the need for efficiency. Especially in internal communication, English and French continue to be the main languages, while the dominance of English seems to be growing as it is the most common option if a member state cannot use its own language. Maltese is one of the languages which has been affected by the changes introduced over the last years. While flexibility is necessary, we need to ensure that Maltese continues to be used as a means of communication in all spheres of life – unless we are willing to return to a situation where only one language can serve as an instrument of international co-operation.

In the European context the need to simplify and clarify is most often associated with legal language. The constitutional crisis following the rejection of the draft European Constitution by French and Dutch voters in 2005 brought up the need to communicate European affairs to EU citizens instead of prescribing them by law. Simplification of non-legal texts does not, however, follow the same rules as legislative simplification. To deal with this new prerequisite, the European Commission has come up with several action plans to improve its communication policies. The Commission's simplifications plans from 2005 onwards have underlined the importance of communicating with the EU citizens in a language familiar and comprehensible to them. EU officials are specifically advised to avoid Eurojargon because it is confusing, complicated, and often elitist. Despite the foreground gained to communication, it is still difficult to disperse the fog in the EU language. The EU is a legal entity and most of its language

7   Jorge Diaz-Cintas, *New Trends in Audiovisual Translation* (UK, USA, Canada, 2009).

practices are dominated by the constraints of legal certainty and all-inclusiveness. These practices should, however, be suited to meet the growing demand for comprehensibility and transparency. The EU's simplification strategies should also be concretized. Even if all the recent plans mention the need for clarity, they very rarely refer to language as such. In addition, it is not always clear, what is meant by simplification. The plans also lack concrete means to fight the EU fog. Therefore we need European research on the EU language and its comprehensibility. Concrete results in the effort for a clearer EU language are only gained if we are provided with concrete means to work with.

The EU's impact on the Maltese language has been a focus of debate since the country became a member 13 years ago. The idea that the language used by public authorities – legal language included – should be comprehensible to most citizens has been firmly rooted in Maltese society. In practice the legal texts often fail to meet this ideal and their shortcomings have often been traced to EU directives. This comparative analysis of EU directives and their Maltese implementing laws suggests that the former have not affected the syntax of Maltese legal discourse, which remains consistent. Many legal experts still think that the Maltese statutes do show an influence. Several individual cases have shown that wordings of the directives are transferred untouched to the Maltese implementing laws. Preventing the increase of obscure expressions in Maltese legal language calls for measures on both national and community level: the unintended obscurities should be cleared before the directive is adopted or, at the latest, when the directive is implemented. The member states should seriously reflect on their role in promoting good quality of language while drafting the community legislation. They should also consider the possibilities of multilingualism in enhancing comprehensibility.

The accession of Malta to the EU was a watershed for the Maltese language which suddenly became one of the languages of a major international community. It was now possible to speak Maltese at the meetings of this community and its most important documents were also translated into Maltese. Such extensive use of the Maltese language in the international arena was unprecedented, as was the fact that Maltese officials were now involved in preparing Community statutes drafted in many languages. At least in theory, officials are in a position to influence

the Maltese formulation of documents, as the Maltese negotiators review and revise translations prepared by Community institutions. As actively involved parties, these officials know what the document seeks to achieve, whereas the translator often only has the text to work with. This would therefore seem to offer scope for closer co-operation.

University-based courses have been developed to strengthen Malta's capacity to meet its operational demands in the area of translation, arising from EU membership. The Department of Translation, Terminology, and Interpreting Studies of the University of Malta as it is known today was founded in October 2003 and was designed to open new avenues of thought while providing a firm foundation in the discipline of Translation, Terminology, and Interpreting Studies. As an area of study it combines the underlying theoretical issues involved in literary, technical, screen, legal, scientific, and commercial translation, publishing, localization, and management with the practical aspects of the translation process. The programme is of interest to all graduates whatever their future career route: commercial, legal, scientific, or technical translation; literary or screen translation; localization; research; teaching; or management. The programme caters for a wide range of students who wish to acquire a critical understanding of contemporary issues in translation alongside the practical skills required in today's fast-evolving translation industry. Versatility and employability are thus enhanced. Graduates of the department have found work as freelance/permanent translators and interpreters for EU institutions.

Research is an essential component of the department as can be witnessed by the many publications of the staff members. Over these years the department has also accumulated a rich database of terminologies related to different sectors which have been transferred to a Digitization of Maltese Terminological Collections for Special Purposes and to the creation of a Termbases Project. The department has established links with several foreign universities and European programmes, such as the European Masters in Translation, Optimale, Eulita, and EMCI.

Multilingualism goes beyond its dictionary definition of 'speaking or using many languages'. It is a fundamental principle with the additional meaning of 'equal rights for all official languages'. Equal status for the official languages goes to the heart of what the EU is all about. Language

is a part of national and personal identity. The languages of Europe are part of its immense and diverse heritage and they should be cherished. Translators in the EU institutions must not expect excitement or drama; almost every day, they will have some jobs that are repetitive and boring. But, if they can keep an enquiring mind and a positive attitude, they will realize the bigger picture of EU activity and enjoy being part of it. For translators interested in learning languages, understanding other nationalities, and immersing themselves in new and sometimes abstruse areas, EU institutions provide unparalleled opportunities. Translators working in the EU, whether as in-house or freelance, are members of a team made up of revisers, legal revisers, and, of course, politicians, officials, and others who will have their say on both style and substance in the course of the co-decision process.

The famous Italian author, Umberto Eco,[8] sees translation as negotiation. This is what he says in his book *Mouse or rat? Translation as negotiation*: 'When speaking of negotiation I do not mean to suggest a sort of deconstructionist idea according to which, since translation is a matter of negotiation, there are no lexical or textual rules that can be used as a parameter for telling an acceptable from a bad or incorrect translation. The possibility and even the advisability of negotiation do not exclude the presence of rules of conventions.'

Prof. Joseph Eynaud is Head of the Department of Translation and Interpreting Studies. He joined the University of Malta as a lecturer of Methodology related to the teaching of Italian as a Foreign Language. He introduced the area of study *Glottodidattica* in the Department of Arts and Languages in Education. In 1987 he joined the Department of Italian where he taught Italian Theatre and Italo-Maltese Literature. In 2003 he founded the Department of Translation and Interpreting Studies in the Faculty of Arts of which he is Head of Department. He set up the first Interpreters' Laboratory and Terminology Centre with the help of EU financial aid. Eynaud served as President of the International Association of Italian Professors (2002–08) and organized several international congresses. In 2003 he was awarded the title of Cavaliere della Repubblica Italiana. His publications include studies on Italo-Maltese Literature, Translation and Interpreting Studies and textbooks for students reading Italian as a Foreign Language.

8   Umberto Eco, *Mouse or rat?: translation as negotiation* (London, 2004).

The Connections of Connections: New Results on the Centrality and Communicability of Networks

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Abstract: In network science, the centrality, or importance, of a node in a network is of crucial importance, for instance to rank webpages or to measure the rate of the spread of news on a social network. Also of importance is measuring the communicability between two nodes in a network, which assesses how well the nodes can communicate between them. Two methods of calculating the centrality and communicability of nodes in a network, arising from the subgraph centrality approach utilizing walk of graphs are surveyed, with a focus on the more recently introduced of these two methods. A connection between the centrality and communicability scores produced by this scheme is presented. The question of how the centrality and communicability of nodes vary by the introduction of new links in the network is put forward. To answer this question, formulae that derive these centrality and communicability differences in terms of existing centralities of nodes within the network are presented.

Keywords: network, centrality, communicability, walks of graphs, resolvent matrix

During the past decade, the study of the interactions existing in networks associated with the natural, social, and technological sciences gave rise to the field of network science. In this area of study, a network can represent websites linked together on the World Wide Web, the interconnections of neurons in a brain, people connected on a social network, individuals interacting with each other, the structure of a molecule or of a protein, the connections of power lines supplying various

buildings, and so on.[1] Network science thus unifies the theories established in these different areas of study, and others, to be able to provide collective answers to questions related to the connectivity of such networks.

Mathematics allows the unification of such networks arising from different fields of study by representing a network as a graph. A *graph* is a collection of nodes and edges linking several of these nodes together. The area of graph theory in mathematics is thus essential to network science, in which the centrality and communicability of nodes in networks play an important role. Figure 1 shows an example of a graph, or network, having six nodes and eight edges. Throughout this paper, the number of nodes in the network shall be denoted by *n*. For instance, in the example of Figure 1, *n = 6*.

In network science, the *centrality* of a node in a network quantifies how well that node is connected to all others. On the other hand, the *communicability* between two distinct nodes in the network assigns a value according to how well those two nodes can communicate with each other.[2] A node with high centrality is considered more important, or has more influence, over nodes having lower centrality. For example, in the World Wide Web, which can be considered as being a giant network linking websites together, a node with high centrality signifies a website that is more influential, or has overall more traffic, than others having a lower centrality score. On the other hand, in an epidemiology network representing the interactions between persons coming in contact with each other, two persons (nodes) having a low communicability score signifies that these persons have a low probability of transmitting potential contagious diseases to each other.

These two measures – centrality and communicability – are then combined to provide the *betweenness centrality* of a node, which is a measure of how the overall communicability of the network changes when that node is removed.[3] The betweenness centrality of a node can also be understood as measuring how much information passes through that particular node in order to reach others.[4]

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1   Ernesto Estrada and Desmond J. Higham, 'Network Properties Revealed Through Matrix Functions', *SIAM Review*, 52 (4) (2010), 696–714.
2   M.E.J. Newman, 'A Measure of Betweenness Centrality Based on Random Walks', *Social Networks*, 27 (1) (2005), 39–54.
3   Estrada and Higham, 698.
4   Newman, 40.

The various ways by which these values may be produced is where mathematics comes to the fore.

Subgraph centrality

There are a multitude of methods used to calculate the centrality of nodes of networks. Benzi and Klymko provide an overview of these different methods.[5] One of these methods, the eigenvector centrality, was made famous by the PageRank algorithm, on which the search algorithm used by Google is based.[6] In this paper, the focus is on one method of calculating the centrality of nodes called the *subgraph centrality*, first put forward by Ernesto Estrada[7] in 2000 and later refined by Estrada and Rodríguez-Velázquez.[8]

Pertinent to this method is the concept of a *walk* on a graph (network). A walk on a network that starts from node A and ends at node B is a sequence of nodes, having first node A and last node B, such that any two consecutive nodes in the sequence are linked together by an edge in the network. The *length* of the walk is one less than the number of nodes that its sequence of nodes possesses. The sequence may contain repeated nodes, or it may not; indeed, the starting and ending nodes might be the same, in which case the walk is *closed*. In Figure 1, the walk $1 \rightarrow 2 \rightarrow 4 \rightarrow 6 \rightarrow 4 \rightarrow 5 \rightarrow 4$ is a walk of length six starting at node 1 and ending at node 4. An example of a closed walk on the same network that starts and ends at node 2 is the walk $2 \rightarrow 1 \rightarrow 2 \rightarrow 4 \rightarrow 3 \rightarrow 2$, having length five.

5   Michele Benzi and Christine Klymko, 'On the Limiting Behavior of Parameter-Dependent Network Centrality Measures', *SIAM J. Matrix Anal. Appl.*, 36 (2), 686–706.
6   Sergey Brin and Lawrence Page, 'The Anatomy of a Large-Scale Hypertextual Web Search Engine', *Computer Networks and ISDN Systems*, 30 (1) (1998), 107–17.
7   Ernesto Estrada, 'Characterization of 3D Molecular Structure', *Chem. Phys. Lett.*, 319 (2000), 713–8.
8   Ernesto Estrada and Juan A. Rodríguez-Velázquez, 'Subgraph Centrality in Complex Networks', *Physical Review E*, 71 (056103) (2005).
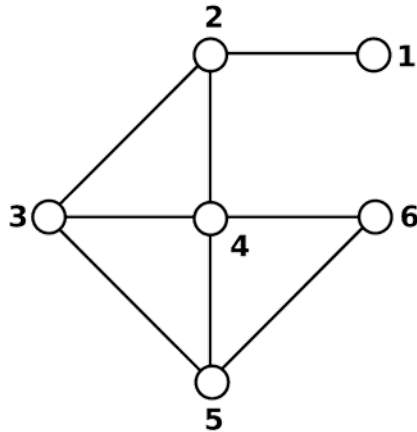
Figure 1 A simple network having six nodes labelled 1, 2, 3, 4, 5 and 6

A node B is *incident* to another node A if they are linked by an edge. One simple way to describe the centrality of a node is to simply count the number of closed walks of length two starting and ending at this node. This will count the number of nodes incident to that node; this number is called the *degree* of the node. This simple measure, called the *degree centrality*, is also one of the earliest employed – indeed, it was introduced in 1954 by Shaw.[9] However, a usually better measure of centrality of a node is obtained by counting all possible closed walks that start and end at that same node, and then weighting these walk counts according to their length. Applications usually dictate that the shorter a walk is, the more important it is deemed to be. This is how subgraph centrality works.

Of course, choosing different weights for the walk counts gives rise to different subgraph centrality measures. In Estrada's original paper that introduced the concept of the subgraph centrality,[10] he proposed to weigh the walk lengths as follows: a walk of length one is twice as important as a walk of length two, a walk of length two is three times as important as a walk of length three, a walk of length three is four

9   Linton C. Freeman, 'Centrality in Social Networks Conceptual Clarification', *Social Networks*, 1 (1978/79), 215–39.
10   Estrada., 715.

times as important as a walk of length four, and so on. This is called *exponential weighting*. Walks of length zero, which are only possible in closed walks, are given a score of one, while longer walks are counted as fractions of zero-length walks. This weighting of subgraph centrality spurred a large amount of interest from several authors coming from a wide range of fields such as biochemistry (particularly in the study of protein folding),[11] statistical thermodynamics,[12] quantum chemistry,[13] network theory,[14] and information theory.[15] Indeed, nowadays, the sum of the subgraph centralities of all the nodes in the network, using this weighting, is known as the *Estrada index*.[16] The communicability between two distinct nodes A and B in the network is also determined in the same way: walks starting at A and ending at B of various lengths are counted, then these counts are exponentially weighted as described above.

A second weighting, proposed by Estrada and Higham in 2010 is the following:[17] assuming the network has n nodes, any walk of length k is $(n - 1)$ times as important as a walk of length $(k + 1)$. For example, the walks of a network with nine nodes would be weighted as follows: a walk of length one is eight times as important as a walk of length two, a walk of length two is eight times as important as a walk of length three, a walk of length three is eight times as important as a walk of length four, and so on. As before, walks of length zero are given a score of one. We shall call this the *resolvent weighting*, as it is related to the *resolvent matrix* in mathematics.[18] It is important to note that the exponential weighting mentioned in the previous paragraph is related to a matrix in mathematics called the *matrix exponential* – hence its name.[19] The centrality and communicability measures arising from the

11   Ibid.,717.
12   Ernesto Estrada and Naomichi Hatano, 'Statistical-mechanical Approach to Subgraph Centrality in Complex Networks', *Chem. Phys. Lett.*, 439 (2007), 247–51.
13   Ernesto Estrada, Juan A. Rodríguez-Velázquez and Milan Randić, 'Atomic Branching in Molecules', *Int. J. Quantum Chem.*, 106 (2006), 823–32.
14   Estrada and Rodríguez-Velázquez.
15   Ramon Carbó-Dorca, 'Smooth Function Topological Structure Descriptors Based on Graph Spectra', *J. Math. Chem.*, 44 (2008), 373–8.
16   José Antonio de la Peña, Ivan Gutman and Juan Rada, 'Estimating the Estrada Index', *Lin. Algebra Appl.*, 427 (2007), 70–6.
17   Estrada and Higham.,702.
18   Carl D. Meyer, *Matrix Analysis and Applied Linear Algebra* (Philadelphia, PA, USA, 2000).
19   Roger A. Horn and Charles R. Johnson, *Matrix Analysis*, 2nd edn. (Cambridge, 2013).

resolvent weighting are called the resolvent centrality and resolvent communicability respectively.[20]

Matrices

Matrices were briefly mentioned in the previous paragraph. In mathematics, a *matrix* is a two-dimensional array of numbers. We can neatly package all the centrality and communicability measures of a network in a matrix, such that the entries (numbers) on the main diagonal (the one starting from the top left corner and ending at the bottom right corner) of the matrix are the centralities of each node, while the entries off this diagonal are the communicability measures of the network. For example, the third diagonal entry of such a matrix would be the centrality measure of node 3 of the network, while the entry in the second row and fourth column of the matrix would be the communicability measure between node 2 and node 4 of the network.

The network depicted in Figure 1 has the following two matrices associated with it, both containing the centrality and communicability measures of the network. The first matrix E uses exponential weighting, while the second matrix R uses resolvent weighting.

Exponential Weighting:
$$E = \begin{bmatrix} 1.673 & 1.789 & 1.118 & 1.194 & 0.680 & 0.444 \\ 1.789 & 3.985 & 3.664 & 4.032 & 2.756 & 1.874 \\ 1.118 & 3.664 & 4.742 & 4.914 & 4.032 & 2.624 \\ 1.194 & 4.032 & 4.914 & 6.172 & 4.858 & 3.719 \\ 0.680 & 2.756 & 4.032 & 4.858 & 4.666 & 3.351 \\ 0.444 & 1.874 & 2.624 & 3.719 & 3.351 & 3.180 \end{bmatrix}.$$

Resolvent Weighting:
$$R = \begin{bmatrix} 1.048 & 0.238 & 0.068 & 0.072 & 0.032 & 0.021 \\ 0.238 & 1.188 & 0.341 & 0.359 & 0.161 & 0.104 \\ 0.068 & 0.341 & 1.223 & 0.416 & 0.359 & 0.155 \\ 0.072 & 0.359 & 0.416 & 1.306 & 0.413 & 0.344 \\ 0.032 & 0.161 & 0.359 & 0.413 & 1.220 & 0.327 \\ 0.021 & 0.104 & 0.155 & 0.344 & 0.327 & 1.134 \end{bmatrix}.$$

The following briefly describes how the numbers in the sixth row and sixth column of the above two matrices, namely 3.180 and 1.134, were

20   Estrada and Higham, 702.

produced. The other numbers were determined in a similar manner. The closed walks starting and ending at node 6 are counted. We notice that there is one walk of length zero, no walks of length one, two walks of length two, two walks of length three, eleven walks of length four, and so on. These can all be easily verified by inspection, except perhaps the last claim that there are eleven closed walks of length four starting and ending at node 6. These are listed below for confirmation:

$6 \rightarrow 4 \rightarrow 6 \rightarrow 4 \rightarrow 6$
$6 \rightarrow 4 \rightarrow 6 \rightarrow 5 \rightarrow 6$
$6 \rightarrow 4 \rightarrow 5 \rightarrow 4 \rightarrow 6$
$6 \rightarrow 4 \rightarrow 2 \rightarrow 4 \rightarrow 6$
$6 \rightarrow 4 \rightarrow 3 \rightarrow 4 \rightarrow 6$
$6 \rightarrow 4 \rightarrow 3 \rightarrow 5 \rightarrow 6$
$6 \rightarrow 5 \rightarrow 6 \rightarrow 5 \rightarrow 6$
$6 \rightarrow 5 \rightarrow 6 \rightarrow 4 \rightarrow 6$
$6 \rightarrow 5 \rightarrow 4 \rightarrow 5 \rightarrow 6$
$6 \rightarrow 5 \rightarrow 3 \rightarrow 5 \rightarrow 6$
$6 \rightarrow 5 \rightarrow 3 \rightarrow 4 \rightarrow 6$

Using the exponential weighting, the centrality of node 6 is thus

$$1 + \left(\frac{1}{1}\right)0 + \left(\frac{1}{1}\right)\left(\frac{1}{2}\right)2 + \left(\frac{1}{1}\right)\left(\frac{1}{2}\right)\left(\frac{1}{3}\right)(2) + \left(\frac{1}{1}\right)\left(\frac{1}{2}\right)\left(\frac{1}{3}\right)\left(\frac{1}{4}\right)(11) + \cdots$$

Using the resolvent weighting, the centrality of node 6 is

$$1 + \left(\frac{1}{5}\right)0 + \left(\frac{1}{5}\right)\left(\frac{1}{5}\right)2 + \left(\frac{1}{5}\right)\left(\frac{1}{5}\right)\left(\frac{1}{5}\right)(2) + \left(\frac{1}{5}\right)\left(\frac{1}{5}\right)\left(\frac{1}{5}\right)\left(\frac{1}{5}\right)(11) + \cdots$$

Thus, infinitely many numbers must be summed up in both cases. However, both summations can be proved to always *converge* to some particular values, and do not become infinitely large as more numbers are added. Indeed, this can be proved to be true for any network, for the centrality of any node, and for the communicability of any distinct pairs of nodes.[21] Thus, the summation can be continued until the required degree of accuracy is achieved. In this case, the above summations

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21   Ibid.,700.

converge to 3.180… and to 1.134… respectively. This explains why the matrix E has the value 3.180 at its sixth row and sixth column, while matrix R has the value 1.134 at the same position. Naturally, producing these numbers is the perfect job for a computer, and this is indeed the way that these numbers are usually produced.

Note also that if the degree centrality was used instead of these subgraph centralities, then nodes 2, 3 and 5 would have been given an equal score of 3, since these nodes all have three nodes incident to them. Using exponential weighting and resolvent weighting, however, these three nodes are given different scores, so that node 3 is deemed to be slightly more well-connected than node 5, which is, in turn, slightly more well-connected than node 2.

Relation between resolvent centrality and resolvent communicability of networks

In this paper, the focus is exclusively on the resolvent centrality and resolvent communicability, that is, on the numbers forming matrices akin to matrix R above. A method to determine the resolvent centrality of any node in a network in terms of each resolvent communicability measure between that node and any node incident to it is described. The question of how the resolvent centralities of nodes and the resolvent communicabilities of distinct pairs of nodes change by the introduction of a new link in the network is then posed. The answer to this question is shown to be surprisingly complicated.

The following results are presented:

Result 1: *The resolvent centrality of node A in a network having n nodes is the sum of the resolvent communicabilities between A and each node incident to A, divided by* $(n − 1)$*, plus one.*

Result 2: *If node A is not incident to node B, then the resolvent communicability between nodes A and B in a network having n nodes is the sum of the resolvent communicabilities between A and each node incident to B, divided by* $(n − 1)$*. (Swapping A and B in this result is permissible.)*

Both of the above results are proved together, by first introducing the *adjacency matrix* of the network. The adjacency matrix has a '1' at row A and column B if nodes A and B are linked by an edge; otherwise, it has a '0'. For example, the adjacency matrix of the network in Figure

$$A = \begin{bmatrix} 0 & 1 & 0 & 0 & 0 & 0 \\ 1 & 0 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 1 & 1 & 0 \\ 0 & 1 & 1 & 0 & 1 & 1 \\ 0 & 0 & 1 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 & 0 \end{bmatrix}.$$

It turns out that the matrix R containing the resolvent centralities and resolvent communicabilities of the network may be written in terms of the adjacency matrix A as the matrix $(n-1)((n-1)I - A)^{-1}$.[22] Here, I is the identity matrix, which is the matrix whose entries (numbers) on its main diagonal are all ones and whose off-diagonal entries are all zeros.

By definition of the matrix inverse, we have

$$((n-1)I - A)((n-1)I - A)^{-1} = I$$

Expanding,

$$(n-1)((n-1)I - A)^{-1} - A(n-1)I - A)^{-1} = I$$

Rearranging,

$$(n-1)((n-1)I - A)^{-1} = I + A((n-1)I - A)^{-1}$$

But since $R = (n-1)((n-1)I - A)^{-1}$
the above relation may be written as follows:

$$R = I + \frac{1}{n-1} AR.$$

22   Alexander Farrugia, 'The Increase in the Resolvent Energy of a Graph Due to the Addition of a New Edge', *Applied Mathematics and Computation*, 321, (2018) 25–36.

Results 1 and 2 are then proved by equating each entry of matrix R on the left hand side of the above relationship with its corresponding entry on the right hand side.

Result 1 is illustrated using the network in Figure 1. The resolvent centrality of node 6 is 1.134, according to matrix R. Since node 6 is incident to node 4 and node 5, this number should be equal to the sum of the communicability between nodes 4 and 6 and the communicability between nodes 5 and 6, divided by 5 (one less than the number of nodes in the network), plus one. Indeed, $\frac{0.344+0.327}{5}$ +1 is equal to 1.134.

Moving on to Result 2, according to the same matrix R, the resolvent communicability between nodes 3 and 1 is 0.068. Node 3 is incident to nodes 2, 4 and 5, so by Result 2, 0.068 should be one fifth of the sum of the communicabilities between nodes 1 and 2, nodes 1 and 4 and nodes 1 and 5. We confirm that this is the case, since $\frac{0.238+0.072+0.032}{5} = 0.068$ The same result can also be obtained by noting that node 1 is only incident to node 2, so by swapping nodes 3 and 1 and reapplying Result 2, 0.068 should also be equal to the communicability between nodes 3 and 2, divided by five. Indeed, $\frac{0.341}{5} = 0.068$ too.

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The change in the resolvent centrality and resolvent communicability caused by the introduction of a new link to the network

The centrality of each node and the communicability between any two nodes in the network must increase after any two nodes are joined by an edge. The reason for this is that this new link will increase the number of walks of various lengths in the network. This will, in turn, directly affect all centrality and communicability scores in the network, each ending up increasing slightly.

The problem, then, is to quantify this increase, because the centrality score of each node in the network will possibly be increased by different amounts. For the resolvent weightings of graphs, the change in the centrality of a node and the communicability of pairs of nodes have been quantified in the recent paper by Farrugia.[23] Unfortunately, the equations that provide these changes are rather complicated.

Before proceeding, we denote the resolvent centrality at node A

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23   Ibid., 29.

by C_A or by $C_{A,A}$. Moreover, the resolvent communicability between the distinct nodes A and B is denoted by $C_{A,B}$ Furthermore, we assume that nodes A and B were not linked together by an edge prior to the introduction of the new link in the network.

Result 3: *The resolvent centrality at node N after nodes A and B are linked together increases by*

$$\frac{2(n-1-C_{A,B})C_{N,A}C_{N,B} + C_A(C_{N,B})^2 + C_B(C_{N,A})^2}{(n-1-C_{A,B})^2 - C_A C_B}$$

Result 4: The resolvent communicability between nodes M and N after nodes A and B are linked together increases by

$$\frac{(n-1-C_{A,B})(C_{M,A}C_{N,B} + C_{M,B}C_{N,A}) + C_A C_{M,B}C_{N,B} + C_B C_{M,A}C_{N,A}}{(n-1-C_{A,B})^2 - C_A C_B}.$$

Recall that if one (or both) of M or N is/are the same as one (or both) of A or B, then the notation $C_{A,A}$ may be simplified to C_A. For example, the resolvent communicability increase between nodes A and B themselves after they are linked together is the slightly simpler quantity

$$\frac{(n-1)\left(C_A C_B + (C_{A,B})^2\right) + C_{A,B}\left(C_A C_B - (C_{A,B})^2\right)}{(n-1-C_{A,B})^2 - C_A C_B}.$$

Again, we illustrate these results using the example network of Figure 1. Suppose nodes 1 and 6 are linked together by an edge. By Result 3, the increase in resolvent centrality of node 5 owing to the presence of this new link in the network amounts to

$$\frac{2(5-0.021)(0.032)(0.327) + (1.048)(0.327)^2 + (1.134)(0.032)^2}{(5-0.021)^2 - (1.048)(1.134)}$$

$$= \frac{0.104 + 0.112 + 0.001}{24.790 - 1.188} = \frac{0.217}{23.602} = 0.009.$$

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This means that the effect on the resolvent centrality of node 5 after the new link between nodes 1 and 6 is introduced is an increase from 1.220 to 1.220 + 0.009, or 1.229.

The increase in resolvent communicability between nodes 3 and 4 caused by the introduction of the new link between nodes 1 and 6 is now investigated. By Result 4, this amounts to

$$\frac{2(5 - 0.021)(0.032)(0.327) + (1.048)(0.327)^2 + (1.134)(0.032)^2}{(5 - 0.021)^2 - (1.048)(1.134)}$$

$$= \frac{0.104 + 0.112 + 0.001}{24.790 - 1.188} = \frac{0.217}{23.602} = 0.009.$$

Hence, connecting nodes 1 and 6 together increases the resolvent communicability between nodes 3 and 4 in the network from 0.416 to 0.416 + 0.010 = 0.426.

These values may be confirmed by calculating them directly using the method described at the end of the 'Matrices' section of this paper.

Conclusion

This paper presented expressions for the resolvent centrality in terms of certain resolvent communicability scores in the network. Moreover, formulae for the difference in resolvent centrality and resolvent communicability of nodes because of the introduction of a new link in the network were revealed.

Similar expressions for the exponential centrality and communicability of nodes, rather than those with resolvent weightings as discussed in this paper, are much more difficult to derive. The main difficulty to overcome in such an endeavour is the noncommutativity of matrix multiplication. The rule $e^x e^y = e^{x+y}$ for any numbers x and y is well-known, even by schoolchildren. Unfortunately, the corresponding law for matrix exponentials, that is $\exp(A)\exp(B) = \exp(A+B)$, only holds when $AB = BA$. In fact, this is a necessary and sufficient condition, in the sense that if $AB \neq BA$, then $\exp(A)\exp(B)$ and $\exp(A+B)$ are guaranteed to be different matrices.[24]

24 Cleve Moler and Charles Van Loan, 'Nineteen Dubious Ways to Compute the Exponential of a Matrix, Twenty-Five Years Later', *SIAM Review*, 45 (1) (2003), 3–49.

Further research on this area is suggested. Indeed, it would be interesting to attempt to derive similar results to those presented in this paper for the exponential subgraph centrality of networks. After all, as mentioned earlier in this paper, the exponential subgraph centrality, on which the Estrada index is based, is already being utilized in plenty of important applications.

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Highlighting the Green Face of Chemistry to Sixth-Form Students

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Abstract: Green chemistry is based on radical ideas, overlapping with the principles of sustainability, which propose a modern version of chemistry that is less toxic, less hazardous, highly efficient and non-polluting. Introduced in universities in the early 1990s, it was later adapted to lower levels of education. There is little research on the impact of green chemistry on students learning chemistry at post-16. This project investigated the reaction of Maltese sixth-form students to its possible introduction in the A-level programme of studies. It involved the design and implementation of a classroom and laboratory intervention to introduce basic ideas of green chemistry at this level of education. Data gathered from the participants and from a control group were later analysed both qualitatively and quantitatively.

Results show that green chemistry raised the students' environmental awareness and their motivation in the subject. Students realized that it could close the gap between a traditional curriculum and one emphasizing the effect of chemistry on society. Participants strongly supported the inclusion of green chemistry in future A-level chemistry curricula as it opened their minds to think more critically and evaluate better the sustainability of chemical products and chemical processes, and their impact on their lives.

Keywords: chemistry for the environment, environmental chemistry, green chemistry, green chemistry education, sustainable chemistry, sustainable education

When one analyses the recent versions of the local A-level chemistry syllabus, one notices that environmental topics, usually introduced at ordinary level, are conspicuously absent. It is quite surprising (if not disappointing) to note how young

students who are usually so interested and sensitive to environmental issues are not given the chance to delve into more detail on some of the aspects of environmental chemistry at post-secondary level despite possessing sufficient background knowledge of the subject.

Whilst one may argue that the revised syllabus does include some isolated references to environmental chemistry, local science educators might not have sufficiently realized the developments and growing importance of another aspect of environmentally related chemistry in research and in academic circles. This is not the same type of environmental chemistry which is significantly lacking prominence in our A-level programme. In fact it is referred to by the curious name of 'green chemistry'.

Evolution of green chemistry

Green chemistry is a relatively new area of chemistry that aims to prevent pollution at the molecular level by designing safer non-toxic/ non-hazardous chemicals and chemical processes. It is also known as 'sustainable chemistry' as it protects human health and the environment and is also economically viable.

This new aspect of science is based on a set of scientific guidelines known as 'The Twelve Principles of Green Chemistry' which were launched by Anastas and Warner in 1998. These principles serve as a framework for chemists to evaluate the 'greenness' or sustainability of chemical products and reactions and are regarded as the rules of the game for the adoption of green chemistry by the chemical industry.[1] In other words, it is a more sophisticated way of doing chemistry, aiming at preventing pollution and health problems at the chemical design stage.

Green chemistry started as a research programme in the USA in the early 1990s as a reaction by chemists to address environmental problems created in the twentieth century by the chemical industry, but also to counteract the mounting legislation to control pollution. With time, it metamorphosized into a scientific movement involving people from the chemical industry, universities, laboratories, and other scientific

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1   Paul T. Anastas and John C. Warner, *Principles of Green Chemistry* (New York, 1998); M. Lancaster, *Green Chemistry: An Introductory Text* (Cambridge, 2002).

organizations. It did not take long for green chemistry to proliferate in different countries across the world with activities being organized by a growing number of green chemistry centres and networks, largely operating from universities and colleges. Green chemistry was also shortly adopted by various international organizations while research started being published in a number of journals, some of which being entirely dedicated to this new area of science.[2] Research in green chemistry was crowned on more than one occasion with the prestigious Nobel Prize in Chemistry.[3]

Green chemistry in education

The parallel evolution of the concepts of green chemistry and sustainable development earned the attention of educational fora and institutions, and educators started promoting them in various levels of education. Green chemistry started being taught in universities in the 1990s but was later adapted for younger audiences and introduced in the curriculum of secondary and post-secondary schools. Literature suggests that teaching green chemistry to young students enables them to relate better basic chemistry concepts to their everyday lives and may even attract bright students to chemistry careers. However, other sources indicate that several potential obstacles could hinder the introduction of green chemistry in schools. These include an already overburdened curriculum, resistance from teachers, lack of adequate educational resources, and different forms of scepticism.[4]

While green chemistry does not feature as yet in any science curriculum in Malta until post-secondary level, it has already appeared in A-level (or equivalent) exam specifications in various countries, such

2   Ibid.; W. Wardencki, J. Curyło, and J. Namieśśnik, 'Green Chemistry – Current and Future Issues', *Polish Journal of Environmental Studies*, Vol. 14, No. 4 (2005); Paul Anastas, 'Twenty Years of Green Chemistry', *Chemical & Engineering News*, Vol. 89, No. 26 (2011), 62–5.

3   Nobelprize.org., 'The Nobel Prize in Chemistry 2001 – William S. Knowles, Ryoji Noyori & K. Barry Sharpless', available at http://nobelprize.org/nobel_prizes/chemistry/laureates/2001/ (accessed 20 February 2014); id., 'The Nobel Prize in Chemistry 2005 – Yves Chauvin, Robert H. Grubbs & Richard R. Schrock', available at http://nobelprize.org/nobel_prizes/chemistry/laureates/2005/ (accessed 20 February 2014).

4   M. Lancaster, 'Green Chemistry', *Education in Chemistry*, March 2000; Paul T. Anastas and Evan S. Beach. 'Changing the Course of Chemistry', *Green Chemistry Education*, ACS Symposium Series 1011, (Washington DC, 2009).

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as the UK.[5] This means that green chemistry is now gaining recognition as an important area of chemistry education even at post-secondary level, by being presented with core chemistry concepts which students are expected to understand and learn how to apply before pursuing higher education.

In this project, the present author tried to investigate how a group of first-year A-level chemistry students would respond when they experience learning green chemistry through theory and practical sessions.

Research design and methodology

The research study involved the design, implementation, and evaluation of a green chemistry intervention for 17–18 year old students attending a Maltese sixth-form college. The intervention took the form of a programme of events consisting of a set of classroom seminars on various aspects of green chemistry, practical work, and other activities such as student presentations and a slogan competition. It was aimed to introduce basic concepts of green chemistry by identifying a number of areas of interest related to established A-level topics. The intervention package was designed to allow students acquire a good background of green chemistry over a period of one academic year.

The pilot intervention was carried out during academic year 2008–09 and data were collected from a single cohort of students before and after

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5   AQA Examination Board, 'AS & A Level Chemistry Specifications (for first teaching in 2015), available at http://filestore.aqa.org.uk/resources/chemistry/specifications/AQA-7404-7405-SP-2015.PDF (accessed 1 August 2017); CCEA (Northern Ireland).'GCE Specification in Chemistry', available at http://www.rewardinglearning.org.uk/microsites/chemistry/revised_gce/specification/index.asp (accessed 1 August 2017); Edexcel Limited, 'AS and A Level Chemistry from 2015', available at https://qualifications.pearson.com/content/dam/pdf/A%20Level/Chemistry/2015/support/T794_A_Level_Chemistry_spec_subject_guide_new.pdf (accessed 1 August 2017); International Baccalaureate, Diploma Programme – Chemistry Guide (First Assessment 2016)', available at http://www.ibchem.com/root_pdf/Chemistry_guide_2016.pdf (accessed 1 August 2017); OCR Examination Board. 'AS/A Level GCE Chemistry 'A' Specification', available at http://www.ocr.org.uk/Images/81089-specification.pdf (accessed 1 August 2017); WJEC-CBAC (Wales) Examination Board.'GCE AS/A Level in Chemistry – Specification', available at http://www.wjec.co.uk/qualifications/science/as-a-level/chemistry-as-a-level-2015/wjec-gce-chemistry-spec-from-2015.pdf?language_id=1 (accessed 1 August 2017).

the intervention. A preliminary analysis of the data generated from the pilot study led to some modifications and fine tuning of the intervention package and of the research tools required for the main study. The main intervention was carried out on a similar group of students (GC group) during the following academic year, i.e. 2009–10, with data being collected from the same class and from another class within the same cohort which was not involved in the main intervention, thereby acting as a control (non-GC group). The total number of participants in the study was 67, representing 30.3% of the first-year students then studying chemistry at the Maltese sixth-form college.

Data were collected during the main study using a number of research instruments such as questionnaires (included in a chemistry survey), students' activity worksheets and presentations, research journal, laboratory practical reports, and particularly from focus group discussions which were all transcribed and translated prior to analysis. The types of questions addressed to students (both in the survey and focus groups sessions) ranged from their perceptions and difficulties of chemistry taught at school, the impact of chemistry on society, current careers and opportunities in chemistry, ideas on green chemistry forming part of the college chemistry curriculum, views of green and sustainable chemistry, views on learning green chemistry, and potential barriers to learning / studying green chemistry at this level. One part of the survey tested the students' abilities to understand the main concepts of green chemistry by asking them to discuss specific situations (sometimes involving relevant calculations) by applying some of the fundamental principles adopted by this new approach of doing chemistry. Students forming part of the GC group were also involved in setting up an exhibition of a number of posters created by them for their research presentations.

All data gathered before, during, and after the intervention were then processed and analysed with the help of computer-assisted qualitative analysis software, using a theoretical framework (for 'attitude' data) and an evaluation scheme (for 'understanding' data) developed as a result of literature reviewed for the same project. A strategy was also created to test the effectiveness of the intervention package and this was applied in conjunction with the theoretical framework to evaluate the intervention. Once the data analysis was completed, the main findings were known and a conclusion was drawn up.

Inferences and main findings

Students' Overall Positive Reaction

The study found that Maltese sixth-form students reacted very favourably to the introduction of green chemistry. Participants appeared to be particularly engaged with the ideas of green chemistry right from the very first seminar till the laboratory sessions which allowed them a close encounter with the practical side of the subject.

By the end of the intervention, the GC students adopted a more positive attitude towards chemistry as a science and even towards school chemistry. They also developed a higher degree of environmental awareness and a critical mind which enabled them to express themselves with confidence on several features of green chemistry. They also showed a significantly stronger positive attitude towards the applicability of green chemistry as could be confirmed through analysis of the chemistry survey. This higher sensitivity of the GC students towards the environment could also be confirmed in the way they reflected upon about the various environmental world problems and the way they perceived the impact of green chemistry on society during focus group discussions. GC students also showed higher-order thinking skills, both in the way they tackled certain questions of the chemistry survey as well in the way they argued on the future role of chemistry in the post-intervention focus groups.

The study also showed that participants were so convinced about the usefulness of green chemistry that they agreed almost unanimously that it should be incorporated in the A-level curriculum and future examinations. Indeed students realized that the current curriculum needed to be updated to reflect important contemporary developments in chemistry, such as the case of green chemistry. They also thought that one of the best ways of learning green chemistry was through the use of relevant practical work in the school laboratory.

Impact of green chemistry on students' attitudes

One of the main findings of this study was that green chemistry managed to change student attitudes towards societal chemistry. The survey showed, for example, that their initial negative attitude towards the social responsibility of chemistry with respect to the environment

became less pronounced amongst the GC respondents but more meaningful within the non-GC group over the same period of time.

The intervention also brought new ideas and considerations among students about the true value of chemistry in society. The green chemistry experience helped them contemplate the unique contribution of this new form of chemistry to human civilization. It is evident that students recognized, by the end of the intervention, that the advent of green chemistry gave a further boost to the positive impact of chemistry on society, particularly in the health and environmental sectors. Students acknowledged, for example, that green chemistry has the potential to make the difference in the quality of human life as it targets pollution prevention in an unprecedented way. Evidence shows that the same students who experienced the intervention understood that green chemistry represents a radical reaction by chemists all over the world to prevent scientists and other people from committing once again past mistakes which claimed thousands of human lives throughout the years and ended up in environmental nightmares in different parts of the world. Students realized also that green chemistry had the potential to correct the public perception that chemistry is a dirty scientific discipline which inevitably ends up generating toxins and pollution. Students clearly acknowledged that green chemistry had the credentials to be proactive, harmless, and a problem-solver.

In contrast, the control group had a less positive viewpoint on the consequences of chemical activity on the environment. Evidence shows that these students were still adamant by the end of the year that chemistry was responsible for environmental degradation. They felt sceptical about the aims and applicability of chemistry that claims to be 'green', arguing for example that this would be too expensive to be applied on a large scale and that chemistry can never be rendered truly eco-friendly for a number of considerations, such as the high energy consumption and the unavoidable amount of pollution by the chemical industry.

Students participating in the green chemistry intervention thought that green chemistry would bring about a number of fresh and radical ideas to the A-level curriculum rendering the subject more relevant, more practical, and more appealing. The study found that students perceived green chemistry to be so close to their everyday lives that

they felt it had the potential to bridge the perceived gap between the current curriculum full of fundamental facts and established theories of chemistry, and contemporary chemistry which focussed also on the impact of chemistry on society.

The study found that students liked green chemistry for a number of other reasons, such as the fact that it was less abstract, more down-to-earth, and more easy-going with respect to the other topics and areas of chemistry. The same students were confident that, apart from being 'environmentally friendly', green chemistry tended to be also 'student friendly' as it added flavour and spice to the subject by including modern and unorthodox, yet positive, ideas that made a lot of scientific sense apart from connecting immediately with the outside world. The general feeling among students who experienced the green chemistry intervention was that its inclusion would raise students' interest and motivation to learn and study chemistry. This explains why the same students recognized the urge of science educators to put a greener face to chemistry thought in schools and in other educational institutions.

There is abundant evidence showing that students were enthusiastic and felt stimulated doing practical work in green chemistry. The study found that the green chemistry experiments provided students with what they described as 'one of the most memorable experiences' they ever had in a school laboratory. Data shows that green chemistry practical sessions instilled very positive feelings among students, giving them a sense of pride and achievement for being able to put some of the green chemistry principles to practise, proving also that they were feasible and not just theoretical. Their green chemistry laboratory experience appeared to restore also the elements of enjoyment and excitement in the laboratory which students found to be somewhat lacking in other routine chemistry practical sessions. Students were so much satisfied with their close encounter in the lab with green chemistry that they strongly favoured the idea of including it in future A-level chemistry programmes. The same students were convinced that such practical sessions were more useful and more appealing than some other analytical procedures which make use of standard techniques and conventional reagents.

Students' ability to understanding green chemistry concepts

This research investigation showed clearly that all students who were exposed to green chemistry were able to master the key ideas which characterize this newly emerging area of science. Students found no particular difficulties in grasping the basic concepts of green chemistry so much so that they were even able to apply them in the laboratory, carry out some individual research work, and then make a short presentation, as well as discussing in class some related concepts and their applicability.

The GC participants had the chance to prove their understanding of green chemistry throughout the entire intervention and particularly in the post-intervention survey. They were able to deal confidently with questions related to different aspects of green chemistry including waste minimization, atom economy, toxicity and safety of reagents and solvents, energy efficiency, renewable resources, chemical derivatives, catalysts, biodegradability, and preventive measures to avoid chemical accidents. The analysis of the students' responses in the survey showed clearly that the GC students were more prepared than their non-GC counterparts to tackle the questions, not only by recalling facts but also by applying the new green chemistry logic which they had just acquired throughout the intervention.

Evidence shows that, rather than learning new green chemistry 'rules' by heart, GC participants were better trained to evaluate the opportunities provided by green chemistry. Analysis of the pre-test responses shows that both groups of students could relate, at the beginning of the year, to environmental chemistry topics such as atmospheric pollution, the ozone layer, sources of energy, toxicity of chemicals, and safety considerations. However, their responses given at that point in time lacked any reference to 'sustainability', which is the over-arching leitmotif of the principles of green chemistry. In contrast, the answers provided by the GC participants towards the end of the year were more focussed and better articulated and showed a higher level of understanding of the essence of green chemistry and sustainable development.

The students' ability to grasp the basics of green chemistry was mostly evident during the learning activities, laboratory experience, and poster presentations. Further evidence was their ability to discuss

with confidence, using appropriate terminology, the different aspects of green chemistry during the seminars and focus group sessions upon completion of the intervention.

Besides learning about new facts and theories on how to make chemistry less toxic and more sustainable, students participating in the green chemistry intervention also developed a higher sensitivity towards the environment and a sharper mind which enabled them to think more critically on the environmental impact of chemistry and on how chemistry can be rendered safer and more sustainable. This is consistent with other studies showing that students who are exposed to green chemistry will improve their critical thinking and communication skills which are required in order to understand better the contexts of sustainable development.[6] It is also congruent with other sources of literature, suggesting that understanding green chemistry helps students address better environmental issues as they feel they can contribute to solving problems in a familiar context.[7]

Impact on future careers

The study found that sixth-form students studying A-level chemistry intended to use the background of the subject to follow a science-related career, particularly medicine or health sciences. Very few students showed interest in the pure sciences. The survey showed that the GC participants had a stronger inclination than other students to choose a scientific career and also a stronger ambition for a chemistry-related job. Participants realized that students wishing to pursue further studies in chemistry or those aspiring for a chemistry-related profession would soon be requiring a good background of green chemistry.

The students also thought that research in green chemistry was an important investment for a healthier future civilization while a few of them declared that, if they were to specialize in chemistry, they would seriously consider the area of green chemistry. This indicates that the intervention instilled a positive effect on students' behavioural attitudes towards studying chemistry.

6   Anne E. Marteel-Parrish, 'Toward the Greening of our Minds: A New Special Topics Course', *Journal of Chemical Education*, Vol. 84, No. 2 (2007), 245.
7   Irvin J. Levy, Julie A. Haack, James E. Hutchison, *et al.*, 'Going Green: Lecture Assignments and Lab Experiences for the College Curriculum' *Journal of Chemical Education*, Vol. 82, No. 7 (2005), 974–78

Implications of this investigation for policy and practice

This study showed that, by being both 'environmentally friendly' as well as 'student friendly', green chemistry has the potential to serve as a much-needed new point of engagement for adolescent science students in the learning of chemistry. Young students studying science subjects at A-level are usually well-informed and rather keen on environmental topics and that explains why green chemistry was so well received by the participants. One important finding was that the same sixth-form students strongly believed that the chemistry curriculum would be enhanced by including environmental and green chemistry topics as these would make the subject more relevant to their everyday life, making it also more appealing.

This work suggests it would be timely for local education authorities to revise their policy in science education to reflect better the human achievements in science, including progress made towards sustainability on Earth. Green chemistry, which has now been around for more than 20 years, is right at the heart of sustainability and hence there is a strong case for it being promoted and taught at all levels of education. The findings point to the need for green chemistry to be given high priority by local educational policy makers when contemplating future changes in school curricula and public examination syllabi.

Students suggested that the best way to learn green chemistry was to infuse its concepts into the regular chemistry programme. Such student voices echo similar ideas from other sources suggesting that one of the most effective way of introducing green chemistry at high school/sixth-form level was by integrating it in different parts of the curriculum.[8] The project found that green chemistry would also be taught effectively through the use of laboratory experiments.

The study also indicated that the introduction of green chemistry in the A-level chemistry curriculum brings about a radical change in the way students start looking at chemistry as it empowers them with a new frame of mind that allows them to judge better the sustainability of chemical products and chemical reactions.

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8   Christopher Kitchens *et al*. 'Completing our Education. Green Chemistry in the Curriculum', *Journal of Chemistry Education*, Vol. 83, No. 8 (2006), 11–26; K. Parent, Mary M. Kirchhoff, and S. Godby, *Going Green: Integrating Green Chemistry into the Curriculum* (Washington, DC, 2004).

Conclusion

The analysis of data from this research investigation found that students reacted positively and enthusiastically to the introduction of green chemistry as this raised significantly their interest in the subject. Green chemistry allowed them to view chemistry in a more intelligent way, allowing them to think more critically on the possible impact of chemical products and chemical changes on human health and the environment. The green chemistry intervention also helped in improving students' motivation to further their studies in chemistry and to choose a chemistry-related career.

Above all, this study shows that the introduction of green chemistry in the A-level curriculum is welcome by students as it includes those aspects of science that are valued by them in real-life situations and in different contexts. Evidence shows that green chemistry has the potential to engage students with the subject as it gives a more positive picture of chemistry, adds relevance, deals with contemporary environmental issues, and proposes a new chemistry at the centre of sustainability.

The author hopes that this project served as a modest educational contribution to the goals of the decade 2005–14, declared by the United Nations as the 'decade of education for sustainable development'.[9]

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9   UNESCO, 'UN Decade of Education for Sustainable Development 2005–2014', available at http://unesdoc.unesco.org/images/0014/001416/141629e.pdf (accessed 1 August 2017).

Understanding Irlen Syndrome in the Classroom

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Abstract: The right of every student is to learn in an open and inclusive education system. Students have diverse needs. The role of the educator is to connect with the students and take stock of their needs and ensure that the teaching methods do not put the student at a disadvantage. A successful education system is based on the principle of equity. Students are treated fairly and respectfully making sure that they are supported to address their needs. This paper focuses on visual perceptual difficulty known as Irlen Syndrome and how this syndrome contributes to difficulties to succeed in the education system. It also underlines what methods can be adopted to counteract the difficulties faced by students with Irlen Syndrome.

Keywords: inclusion, sensation, perception, visual processing, Irlen Syndrome

Educators, who are an integral part of the education system, have to uphold the understanding that in all classes students compose a heterogeneous group. A heterogeneous group implies a student population made up of individuals with diverse needs and ways of learning. Their diverse needs do not make them better or worse. It is intrinsically their differences which enrich the learning environment. In response, the learning environment should be enjoyable, positive, and stimulating to all students. The educator has to go in class with an open mind, aiming to understand the students' needs.

In 2014 the European Agency for Special Needs and Inclusive Education carried out an external audit of the Maltese education system. It underlined a rights based approach referring to the 'right of all children to quality education and effective support to maximize their learning

and participation and achievement of valued outcomes'.[1] The questions arising are the following: how can this materialize and what can be done for this to happen? The answer to these related questions is multifaceted.

In this paper the aim is to focus on students who are struggling to achieve and have visual perceptual difficulties. Depending on the visual perceptual difficulties, namely: whether they are severe, moderate, or mild, the student will go up the ladder of the education system. This paper will focus on how visual information is processed and how it can aid or hinder the abilities of students to learn. It will underline how visual perception is at the heart of effective learning and what methods can be adopted to tackle visual perceptual difficulties.

Learning relies on...

There is a general agreement that learning relies on our senses and more. It relies on our senses but also on our sensory processing, which is perception. Sensory processing is beyond our senses. Information from our senses is transmitted to the brain which has the function of processing the information it receives. There are different senses namely: vision (eyes), tactile (touch), gustatory (taste), olfactory (smell), auditory (hearing), proprioceptive (body position and orientation in space), vestibular (inner ear – movement, gravity and vibration, also significant for balance)[2] and interoception (feeling of hunger, thirst, bowel movement, and urination).[3]

This paper focuses on the processing of visual information. Effective visual processing can lead the person to achieve in one's studies and feel confident in one's learning abilities. So how the brain effectively processes this information is at the heart of the learning process. When there are difficulties with visual processing, the person doubts one's abilities, struggles in the learning process and can easily give up and quit one's studies.

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1   The European Agency for Special Needs and Inclusive Education, *Education for All: Special Needs and Inclusive Education in Malta. External Audit Report* (Brussels, 2014), 85.

2   L. Biel and N. Peske, *Raising a Sensory Smart Child* (London, 2009).

3   http://spdlife.org/aboutspd/senses/interoception.html

Sensation versus perception

Myers describes sensation as: 'the process by which our sensory receptors and nervous system receive and represent stimulus energies from our environment'.[4] This implies that our senses are detecting physical energy and transmitting it to the brain.

Perception is another different process in which the brain organizes and interprets sensory input. It ensures that meaningful recognition of objects and events result.[5] The brain carries out the process of 'transduction'. Transduction has been explained as the process of converting one form of energy into another, which the brain will use.[6] In the case of vision, the eyes process light energy. In the eyes, light energy is transformed into neural impulses and then delivered to the brain. Visual perception occurs at brain level and not at eye level.

So what is a visual perceptual processing difficulty?

A perceptual processing difficulty is 'a hindered ability to make sense of information taken in through the eyes'.[7] Therefore, the student may or may not have problems with one's sight namely: one's eyes. The difficulty is occurring at brain level. In itself this is often difficult to explain to educators. It is not a visible difficulty but it is definitely a very real difficulty.

As Helen Irlen reports in her book *The Irlen Revolution*,[8] when someone has problems with reading it is often assumed that the cause is a vision one or else the person is blamed as not trying hard enough to reach the required level. Often educators pass comments on the students' lack of motivation to study and engage in the learning process. Few think that it has to do with how the brain is processing visual information.

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4   D.G. Myers, *Psychology* (New York, 2013), 218.
5   Ibid.
6   Ibid
7   Irlen Syndrome Foundation, *The Educator Toolkit: What Educators Need to Know About Irlen Syndrome*, https://www.irlensyndrome.org/wp-content/uploads/2015/09/powerpoint-EDUCATOR_Toolkit-02.pdf , 6.
8   H. Irlen, *The Irlen Revolution* (New York, 2010).

What is Irlen Syndrome?

Irlen syndrome, originally known as Scotopic Sensitivity Syndrome (henceforth SSS), is a perceptual dysfunction and not a vision problem.[9] It rules out difficulties with the functioning of the eyes. Irlen Syndrome can co-exist with difficulties of the eye or it can still be present despite the person has perfect eyesight. It is a neurological condition and so it has to do with how the brain processes visual information. Not all persons are affected by Irlen Syndrome in the same way. Irlen Syndrome can be mild, moderate, or severe. It occurs on a 'continuum'.[10]

Helen Irlen in her *Reading by the Colors*[11] has reported that:
Individuals with SSS can experience a number of symptoms including:
- Words seeming to fall off the page
- Words moving together
- Letters reversing and rotating
- Letters switching around
- Background pulsating
- Background flashing and twinkling
- Background being bright and uncomfortable.

As a result, the reader will encounter reading difficulties. Such difficulties can be seen in slow, inefficient reading. The person may feel tired and falls asleep whilst reading. Continuous reading poses challenges and one can suffer from headaches and nausea. People suffering from Irlen Syndrome may also have other difficulties which are beyond reading, namely math calculation, music notes reading, copying, writing, depth perception, sports performance, and other areas not connected with another condition: dyslexia.

It is often the case that people confuse Irlen Syndrome with dyslexia. Recently the International Dyslexia Association (IDA) has redefined dyslexia as a language-based disorder.[12] It is no longer considered as a problem of switching of letters and words but rather it is the persons' inability to connect letters and words they see on page with sounds and

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9   Id., *Reading by the Colors* (New York, 2005).
10   Ibid.
11   Ibid.
12   *The Parent Toolkit*.

meanings.[13] Furthermore, the remedial treatment in the case of dyslexia has been an approach using phonics and a multisensory structured language to help individuals strengthen brain pathways to connect speech with print.

Who has Irlen Syndrome?

Irlen Syndrome is hereditary[14] but can also be acquired following a head injury, concussion, or whiplash.[15] It affects males and females equally and is found in a large number of the population.[16] According to the Irlen Institute,[17] it is mostly prevalent amongst students with learning and reading difficulties (46%) but it also affects students who are diagnosed with Attention Deficit Hyperactivity Disorder (henceforth AD/HD), Dyslexia, and behaviour problems (33%). Thirty per cent of students who are on the autism spectrum disorder have Irlen Syndrome. Nonetheless, this syndrome is prevalent amongst 14% of the average students and gifted, good readers and it is found in over 50% of those individuals who have suffered head injury, concussion, or whiplash.[18]

How to spot Irlen Syndrome

Someone suffering from Irlen syndrome will show one or more of the following symptoms: light sensitivity, inefficient reading, slow reading rate, attention deficit, strain or fatigue, and poor depth perception.[19]

A person who is light sensitive is bothered by glare, fluorescent lights, bright lights, sunlight, or driving at night. One can show discomfort and difficulty to concentrate and work under bright lights or fluorescent lights.[20]

An inefficient reader will have difficulty to read print, numbers, or musical notes. The problems encountered may include print that

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13   Ibid.
14   Irlen, *The Irlen Revolution*.
15   Id., *Sports Concussions and Getting Back in the Game of Life* (San Bernardino, 2015).
16   *The Educator Toolkit*.
17   Ibid.
18   Ibid.
19   Irlen, *Reading by the Colors*.
20   Irlen Institute, *Certified Irlen Screener's Information Handbook* (Long Beach).

shifts, shakes, blurs, moves, doubles, disappears, or becomes difficult to perceive.[21]

The slow reader is unable to read letters, numbers, and musical notes or words in groups and has problems in tracking, correctly identifying words, or skim and speed read.[22]

Attention Deficit is present when there are problems in concentrating while reading or doing schoolwork. The person will also have difficulty staying on task. One needs frequent breaks, looks away, and becomes restless, fidgety, or tired whilst at task.[23]

A person who has Irlen Syndrome will feel strain, tension, sleepy, and fatigued and is likely to suffer from headaches when reading and doing other perceptual activities. Strain can interfere with the ease of reading, studying, or even listening in class.[24]

Finally a person with poor depth perception will not accurately judge distance or spatial relationships and may be unsure or have difficulty with escalators and stairs, and whilst playing ball sports during physical education lessons and/or driving.[25]

What can be done to address Irlen Syndrome?

Apart from making the discovery of Irlen Syndrome**,** Helen Irlen set out to work and came up with methods that identified and provided a remedy to people who suffer from this condition. In fact, her work was significant to the development of two levels within the Irlen Method®: a screening level and a diagnosis level.

Screening
Screening of a student will identify whether Irlen Syndrome affects reading and learning. At this level, the screener can recommend the correct colour overlays to reduce the perceptual-based problems. Before screening, the student needs to undergo a visual examination by an optometrist or an ophthalmologist to correct a visual problem prior to getting treatment for perception.

21   Ibid.
22   Ibid.
23   Ibid.
24   Ibid.
25   Ibid.

During the screening, the student will be presented with tasks which identify the types of distortion that occur. A number of questions are asked by the screener which will tap on sensory issues, the individual's environment, reading habits, lights, unusual reactions to visual stimuli, as well as family history.[26] Screening will identify whether Irlen Syndrome experienced is slight, moderate, or severe.

A series of coloured overlays are presented to assess which one is most effective at improving reading ability and reducing the visual perceptual difficulties. The correct coloured overlay or a combination of overlays will correct the visual perceptual difficulties and then show how a reader without those difficulties experiences reading. Although coloured overlays can be helpful, there are candidates who would eventually need to make use of spectral filters. In this case, overlays can be insufficient to address their needs and are cumbersome and restrictive.[27]

Diagnosis

At diagnosis level the correct spectral filter colour/s are selected. Irlen spectral filters can reduce or eliminate the distortions. The colour of the overlay is often not the colour of the filters and they ensure that perceptual distortions, which can be varied and severe, are addressed.[28]

The diagnostician will help the individual to pick the colour/s most beneficial to address distortions. There is no universal colour. Individuals need a colour that is adapted specifically to them. To address Irlen Syndrome, the colour is carefully and diagnostically prescribed.

The advantage of the spectral filters is that they are worn as lenses or contact lenses. As a result they improve depth perception, sports performance, and make it easier to read under fluorescent lighting, read music, and take tests while eliminating headaches.[29]

Other remedial actions and accommodations

Coloured spectral filters can be very helpful but for some individuals they are not enough. In this case it is best to eliminate white paper

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26   Irlen, *Reading by the Colors*.
27   Ibid.
28   Ibid.
29   Ibid.

and use coloured paper to write, take notes, and do tests. For example, even the angle at which books are held can be very helpful. If one uses coloured filters, the choice of overlay has to be rechecked in view of the spectral filters.[30]

Environmental modifications need to be carried out. This is very significant for the educator in order to see to the avoidance of bright or fluorescent colours. For example, the work attire should exclude stripes, plaids, and polka dots, as well as large or glittery jewellery or buttons. The use of indirect natural light is encouraged and fluorescent lights present should be covered with theatrical gels. Students should also be allowed to wear visors or brimmed hats. When using interactive whiteboards, the background should be grey or brown and educators should avoid at all costs coloured markers such as red and yellow as they are very hard to see. Any paper used should be recycled, off-white, and non-glare; different colours for different people should be used.[31]

Finally within the education system students are also assessed through exams and tests. In this case, the following is recommended. Tests papers should be duplicated on the applicable coloured paper. Coloured plastic overlays should be used. When scantron answer sheets are used, they should be duplicated on applicable coloured paper and students should be allowed to use a ruler. The last thing is the environment. The exam/test room should be lit by natural lighting.[32] These accommodations will make sure that the student is tested on equal level playing field as other students who do not have this condition.

Conclusion

To ensure effective learning and success within the education system, the educator has to understand the student. It is futile to focus only on what meets the eye. To connect with one's students, the educator has to go beyond to what looks as behavioural or lack of motivation in the classroom and has to seek and learn about what could possibly be leading to such behaviour in class.

30 Irlen Institute, *Certified Irlen Screener's Information Handbook*.
31 Ibid.
32 Ibid. and Irlen Syndrome Foundation, *The Educator Toolkit*.

This paper has focused on a real and crude problem that students may be confronted with. Some might not even know that they have the visual perceptual difficulty known as Irlen Syndrome. Yet this syndrome may be contributing to difficulties for them to succeed in the education system. On a positive note, there are methods that can be adopted to counteract the difficulties faced by students with Irlen Syndrome. The role of the educator is to connect with the students so they are guided to seek the required support and succeed now and in their future studies.

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Systems of Knowledge: Strategies in Challenging the Current Perceptions through Improvement of Lecturing Strategies

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Abstract: This paper is the result of a practitioner research into the current teaching and learning of Systems of Knowledge, a compulsory subject, which is treated as an added burden. Consequently SOK is often deemed as a negative experience which steals time from other chosen subjects. The solutions lie in challenging this role. Rather than an inconvenience, SOK should be perceived as *complementary* to the students' post-secondary educational experience. The vast syllabus should not be used as an excuse not to seek improvement in effective teaching methods. I am researching and implementing pedagogical strategies that enhance *engagement* and *relevance*. Skills-based lectures, within the framework for 21st-century learning and life-long learning policies is one strategy employed so far. Content remains important; however' it is integrated with skills that students usually need for their everyday life and to tackle their subjects.

This research is an introductory step but is indicative of the way forward. When students see the relevance of a subject in their studies and their lives, they own it, appreciate it and feel engaged.

Keywords: relevance, engagement, Systems of Knowledge, action research, active learning

Context and Approach

Systems of Knowledge (SOK) is a compulsory subject in Maltese Further Education Institutions for proceeding to studies at the University of Malta. Its compulsory nature defeats its appeal as a complementary subject to the rest of the study programme (two subjects at advanced level and another three at intermediate level). Students perceive the subject, way before they enter the lecture room, as an extra burden. This research aims to challenge this apathy and searches for ways to ameliorate student engagement and subsequent appreciation of the subject's relevance and complementarity to the rest of their studies, primarily through improvement of lecturing strategies. As an educator, experienced in various teaching and learning methods, I set out to put the onus of the challenge on me. Not on the students or on the syllabus: action research was the best agency for change. Rather than just investigating *why*, I set out to find ways *how* to improve the situation. In education, at any level, action/practitioners' research should not be aimed at simply investigating the situation but as a potential 'vehicle for change'.[1]

The opportunity and impetus to carry out this action research arose during the *Junior College Induction Course in Pedagogy*,[2] where I was encouraged to pursue such investigation. I am, therefore, in the process of adjusting my practices as to challenge the negative perception of the subject. The main objective was to search for lecturing strategies which would make the subject more complementary to the other course subjects and more relevant in everyday life. At the onset of my quest, I delved into educational theory for inspiration. I reviewed literature on the latest teaching/learning strategies for *student engagement*, *relevance* of studies in a *lifelong learning* context, and the latest *skills and competences* outlined for our century as opposed to content-based lecturing. Lecture plans were adapted according to this perspective. To evaluate whether these tweaks were effective, after a number of weeks, I conducted a mini-survey and interviews amongst a sample of

1   M. Coleman and J. Lumby, 'The Significance of Site-Based Practitioner Research in Educational Management', in *Practitioner Research in Education – Making a Difference*, D. Middlewood, M. Coleman, J. Lumby (eds.) (London, 2004), 17.
2   *Induction Course in Pedagogy – Learning and Teaching in Further Education*, was a 25-hour intensive programme for new lecturers, organized by the College CPD Committee.

my students. This is a work in progress, nevertheless very encouraging feedback is already at hand (see *Outcomes*, 6).

The Methodology: A practitioner's research, but not only

As a professional on a quest to improve, I opted for *practitioner's research* or, as it is more popularly known, *action research*. These two terms are often used interchangeably when research is meant to put new knowledge to practical use.[3] Since the 1930s, experts in the field have been encouraging educators to adopt such an approach. Dewey was the first to encourage *reflective practitioner research* as a means for improvement.[4] However, it was not until the 1970s that Stenhouse encouraged the shift from reliance on 'outside experts' to teacher researchers.[5] He challenged research 'on' teachers, through promoting research 'by' teachers. Through the 1980s[6] and since then, teacher practitioner research has become the favoured research method in the field. In contrast to other forms of research, it does not seek generalizations and wide-ranging theories, but insights on how one can improve in personal practice. The research is unique, as one deals with own challenges, rather than applying generalized theories discovered by others. As opposed to traditional methods, the researcher is *in* the field of interest and not *above* it.[7]

I was adamant to be a reflective and active practitioner rather than a 'research recipient'.[8] The aim is not to produce or reproduce knowledge but to improve practice. More importantly action research is self-reflective and self-critical: critical reflection of practice, together

3   M. Dadds, 'Perspectives on Practitioner Research', in *Development and Enquiry Programmes – Teacher Researchers* (NCSL), http://palava.wikispaces.com/file/view/Teacher+Researchers+PDF.pdf (accessed 6/8/2017), 2.

4   J. Dewey, *How we think: A restatement of the relation of reflective thinking to the educative process* (Boston, 1933)

5   L. Stenhouse, *An Introduction to Curriculum Research and Development* (London: 1975)

6   W. Carr and S. Kemmis, *Becoming Critical: Education, Knowledge and Action Research* (Lewes,1986).

7   D.A. Schön, *The Reflective Practitioner: How Professionals Think in Action* (New York, 1983).

8   M. Morrison, 'What do we mean by educational research?' in *Research Methods in Educational Leadership and Management*, M. Coleman and A.R.J Briggs (eds.) (London, 2005), 4.

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with action to improve, becomes very pertinent in addressing the needs of students in SOK.[9] As the responsibility for change is on me, this research is based on my practice, my pit-falls, and my successes. Nevertheless, action research should not be trivialized. One cannot set off working independently without regard to other valuable research traditions.[10] Self-development is also sought through learning from others. Accordingly, I set out to investigate my practice by putting it in context of educational theory, emerging policies, and research of other practitioners.

In theory … thus in practice

The literature review in this investigation is based on the exploration of strategies for *active learning*, with particular interest in further education. The focus is primarily on *student engagement*, *relevance*, and *life-long learning*. These three are also interconnected within the discourse of *21st-century skills and competences*.[11] Lecturing in further education varies from other educational sectors in many ways. It has long been dichotomized from secondary education mainly through the methods of teaching and learning. It is a widespread belief, even in Malta that, while secondary teachers 'teach', post-secondary teachers 'lecture'. The lecture is often criticized for its 'lack of effectiveness as an instructional strategy'.[12] Due to the instructional emphasis of 'lecturing' methods, the challenge of *student engagement* in further education deals with methods that contest one-way communication and passive learning. Modern educational research suggests *active learning/ engagement* as the alternative to the tradition of students sitting and listening while lecturers recite their academic expertise. Students ought

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9   S. Lennon, 'What I Really want from this course is …: Tailoring Learning to meet students' needs, using pedagogies of connection and engagement', in *Student Engagement and Educational Rapport in Higher Education*, L. Rowan, P. Grootenboer (eds.) (Switzerland 2017), 87–103.

10   A. Brown and P. Dowling, *Doing Research. Reading Research. A Mode of Interrogation for Education* (London, 1998).

11   J. Soffel, 'What are the 21st-century skills every student needs?' (2016) in weforum.org/ agenda/2016/03/21st-century-skills-future-jobs-students/, (accessed 6/8/2017).

12   M. Bland, G. Saunders, J.K. Frisch, 'In defence of the lecture', *Journal of College Science Teaching*, 37:2 (2007),10.

to write, read, discuss, solve problems, and be continuously challenged with higher-order thinking.[13] Students must own what they are learning, assimilate it and be able to apply it in their daily lives. Lecturers should link students' prior knowledge and experiences to the content knowledge and clarify the correlation between the curriculum and everyday life.[14] Such and other pedagogical techniques, as distinct from traditional lecturing have shown that more students and with diverse learning styles are reached. [15]

The question of *relevance* is very closely tied to lifelong learning and the 21st-century skills and competences. Students need to know that what they are learning is relevant to their desired qualifications for a future job. As lecturers and policy-makers, we need to respond to such demands.[16] Nevertheless, employability should not disregard the need for a holistic approach and an education for life. More often than not, curricular content reflects socio-economic priorities as dictated by a country's agenda for future development; skills and competences should go further than that.[17] In life-long learning policies within the EU, special emphasis is laid on the changing learning and work environments and how we must respond to them, but not only. In 2001 an innovative pedagogy was proposed, with a shift from knowledge to competence, from teaching to learning, and from just learning to *learning how to learn*.[18] The latter emphasizes the development of metacognitive skills and thus a demand for a class environment and learning strategies that cultivate moods for effective ongoing learning.[19] This is amplified even further in the 21st-century skills and competences objectives, which include ways of thinking, ways of working, tools for working,

13   A.W. Chickering and Z.F. Gamson, 'Seven principles for good practice in undergraduate education', *AAHE Bulletin*, 39:7 (1987), 3–7.

14   J. Bransford, A. Brown, and A. Cocking (eds.), *How people learn: Brain, mind, experience, and school* (Report of the National Research Council) (Washington, DC, 1999).

15   C.C. Bonwell and J.A. Eison, 'Active Learning; Creating Excitement in the Classroom', *ASHE-ERIC Higher Education – Report No. 1* (Washington, DC, 1991), 5.

16   R. Edwards, *Changing Places? Flexibility, Lifelong Learning and a Learning Society* (London, 1997).

17   M. Apple, *Ideology and Curriculum*, 2 edn. (New York, 1990).

18   'Making the European Area of Lifelong Learning a Reality', in *Brussels: Commission of the European Communities* (2001), 23.

19   P.J. Denning and G. Flores, 'The Profession of IT – Learning to Learn', *Communication of the ACM*, 59:12 (2016), 33.

and ways of living. [20] Critical thinking, creativity, communication, and collaboration are the competencies aimed to equip students for career and life.

Moreover*, learning to learn* strategies encourage learners to build on prior learning and life experiences in order to apply knowledge and skills in a variety of contexts. This stimulates motivation and confidence in competences for everyday life.[21] Unfortunately, especially in post-secondary and undergraduate and graduate courses, these teaching strategies tend to succumb to the dominance of *content knowledge*.[22] Whilst it is up to designers of curricula to reduce content and encourage skill development, it remains the responsibility of lecturers to integrate skills with content. In higher education, the learning of skills should be as important as research and content knowledge.[23] Rather than an obstacle, content should be a medium for developing these skills.

We should focus on how to enable learners to find, identify, manipulate and evaluate information and knowledge, to integrate this knowledge in their world of work and life, to solve problems … and to communicate this knowledge to others.[24]

This is also reminiscent of 'curricular knowledge' as proposed by Schulman.[25] Here, the content and skills of any subject are also made relatable to those in other subjects. Everything that is learnt, is not learnt for its own sake but as part of a holistic learning process.

Hence, my inspiration to do something about incorporating the skills and competences with SOK content knowledge and relating them to other subjects and everyday life. In SOK, due to the nature of its value-

20   'Assessment and Teaching of 21st Century Skills' (Melbourne, 2013), http://www.atc21s.org (accessed 17/8/2017).

21   *The Key Competences for Lifelong Learning – A European Framework*, An annex of a Recommendation of the European Parliament and of the Council of 18 December 2006 on key competences for lifelong learning that was published in the Official Journal of the European Union on 30 December 2006/L394, http://www.atc21s.org (accessed 17/8/2017).

22   I.R. Cornford, 'Learning-to-learn strategies as a basis for effective life-long learning', *International Journal of Lifelong Education*, 21:4 (2002), 36–6.

23   C.K. Knapper and A.J. Cropley, 'Higher Education and the Promotion of Lifelong learning', *Studies in Higher Education*, 8:1 (2000).

24   T.H. Brown, 'Beyond constructivism: Exploring future learning paradigms', *Education Today*, Issue 2 (2005) 10.

25   L.S. Schulman, *Those Who Understand: Knowledge Growth in Teaching*, http://www.itp.wceruw.org/documents/Shulman_1986.pdf (accessed 28/8/2017).

laden topics, this exercise is fairly manageable; however, I am aware that in other subjects this could be problematic. *Learning to learn* for *life-long learning* and within *21st-century skills and competences* depend not only on the lecturers' disposition to innovative lecturing strategies but also on the nature of the subject. Even the skills and competences themselves and the value of 'learning to learn' are debatable, let alone their applicability in all subjects. Criticism of 21st-century skills also includes the notion that, while we strive to teach skills, content should not be sacrificed, as then students would lack a solid knowledge base.[26] The challenge is thus to adeptly incorporate the skills into knowledge content.

Tweaking for change: Questioning and adapting my lecturing techniques

In the light of the above research, I tweaked my approach to lecturing. As with every action research the changes were to be small, realistic, and gradual. I chose particular areas from the theoretical/practical recommendations discussed above, namely lecture planning, student engagement and participation, drawing on the students' experiences, and encouraging critical thinking. The initial adjustment was in formulating lecture plans. Instead of basing the lecture on a list of points or a power-point based on knowledge content, I listed the skills that students would need to understand the content, hence, promoting active learning. For example, when I was planning a lecture on responsible citizenship I based the objectives on skills (appreciating, evaluating, criticizing, opinion forming) rather than on content. The students were thus presented with a challenge rather than a ready-made pack of information. During the lecture, I then encouraged students to share their experiences with responsible citizenship so far in their lives. This is the pedagogic engagement which promotes connection between content and life experiences.[27] These experiences were then incorporated and referred to when we discussed the content knowledge. When presented

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26   *The Glossary for Education Reform*, http://edglossary.org/21st-century-skills/   (2016) (accessed 28/8/2017).

27   B. Hooks, *Teaching to Transgress: Education as the practice of freedom* (London, 1994).

with the content, the students are not passive recipients, but participative and valued, as Freirean philosophy upholds.[28] A dialogue of knowledge is created. Once the students own their learning, they feel confident to criticize, appraise, and express their own opinion. Another example were the lectures covering *objectivity in science*. The departing point of the first lecture was a discussion on objectivity in everyday life. The students shared examples of objectivity and subjectivity in various situations and the various skills (evaluation, comparison, opinion, etc.) needed to appreciate the difference. Then, when it came to understanding the nature of objectivity and subjectivity in science, the students found it easier to relate to the knowledge content.

Another approach was to encourage students to draw experiences from their academic expertise. The reasons for this approach were twofold, namely to strengthen the participative element but also to connect SOK to their other areas of study. I assumed that, if the students realize that the skills and knowledge from other subjects are applicable also to SOK, they come to see SOK as *complementary* to their other subjects. Before I started 'lecturing' on content, I asked the students if they were studying that topic in any of their subjects and whether they would *enlighten* us, as *experts* in that particular topic. The response was surprisingly positive. One student who is technically proficient, provided us with valuable information on automotive technology when the topic of the industrial revolution came up.

These simple and uncomplicated approaches did not take up much time; rather I would dare to say that time was actually gained. Sometimes the stress we lay upon ourselves to 'teach' all we can, is unnecessary and often unyielding.

Listening to the students: their say in the matter

The major and most valuable part of this practitioner's quest was the students' reaction after the lecturing adjustments. After weeks of lecturing, it was time to listen to what my students had to say. Their feedback, not only serves as an evaluation of the process so far, but also indicates the best way forward in meeting students' needs in SOK.

28 P. Freire, *Pedagogy of the Oppressed* (New York, 2015).

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The listening tools

I carried out a mini survey (Figure 1) to gather quantitative data and followed it up by semi-structured interviews (with the same sample of students) to support the data with qualitative evidence. The sampling was a delicate issue, as I already knew my students very well. Hence, I chose to go for the worst-case scenario. I chose the class (out of four first-year classes), which was most critical and apprehensive of SOK. I reasoned that, if any 'conversions' were possible in this class, then they were possible anywhere. The participants were all voluntary.

The outcomes: before and after impressions

The students' response on their original perception of SOK (Figure 1, Question 1), proved the apathy towards the subject. The adjectives varied from, 'boring and useless', to 'unnecessary and extra', 'waste of time', 'more stress', 'unrequired', and 'time-consuming'. Not even one respondent had a good word to spare. In contrast, their idea of SOK, after attending my lectures (Question 2) was positive and encouraging: 'sometimes it is relatable', 'covers topics that no other subject does', 'it helped me improve in my other subjects', 'lectures were fun and entertaining', 'lectures included many examples', 'we discussed every topic, even what is happening around us'. Others still showed some doubts using the word 'sometimes' when describing the subject as being 'relatable', 'boring', 'useless', and 'interesting'. Two students remained adamant that SOK is 'useless' and 'not needed'.

When it came to specifics (Figure 2), the students showed that they appreciated my efforts, however, I was still far from reaching my desired goals. The majority of students (74%) felt that 'sometimes' SOK was relevant, while 7% hardly ever saw the relevance. In the interviews, the main reason for irrelevance was attributed to topics which were too detailed and technical. These topics alienated the students, as their only preoccupation in class was on how to remember the details for the exam. This issue needs to be tackled with the syllabus designers and with lecturing methods that water down detailed topics.

Improvement in skills was rather more encouraging. A majority of 65% admitted that at times, the skills used during SOK lectures helped in interdisciplinary skills. This means that they saw SOK as complementary to the rest of their studies. A further 16% felt

that they nearly always saw the link. The rest of the students (19%) confirmed that there must be areas and subjects to which SOK is not yet connecting. In the interviews, it was specifically noted that there was little connection between SOK and subjects such as mathematics, chemistry, and accounts.

Student engagement feedback suggests that the majority of the students (63%) felt engaged in almost all lectures. Considering this was the most difficult class, I should not be discouraged by the negative percentage. In interviews, engagement was attributed to topics being relevant to their lives and learning and discussing topics that were never discussed in other lectures. Discussion and critical thinking were here confirmed (as in theory) as two tools for engagement and relevance. Those students who lacked engagement, either confessed that they feel like this in all subjects or else because they still see SOK as a pain in the neck ('*kanna*'). Dealing with the excessive hostility towards the subject is another challenge I will need to take up.

To end on a positive note, the general response of their *before and after* opinion of SoK, was very positive. A good 74% have a 'better' opinion of SOK, while 15% have a 'much better' one. That leaves 8% unaffected and 3% who have a worse opinion than before. The latter 11% expressed the reasons for their opinion as simple apathy and 'aversion' to a subject they did not choose. They were not even interested in discussing it further. Nevertheless, the overall reactions were uplifting and a source of encouragement to pursue further research.

Conclusion … and the road ahead

This modest practitioner's research suggests that with a little effort one can make a difference. However small, any difference is definitely better than retaining the status quo. It is very easy to stay feeling safe in a comfort zone; however, that feeling of safety and comfort is often misleading, if not detrimental to one's practice. As professional practitioners at the service of our students, we must keep searching for ways to develop our pedagogical strategies. It takes courage to admit a need for change: it takes more to act upon it. With this investigation,

1. Before I started SOK lectures, I thought SOK was:

_____

2. SOK lectures were related to my everyday life (they were relevant to me)?

Always   Nearly Always   Sometimes   Nearly Never   Never

3. SOK lectures helped me improve in skills which I can use for other subjects?

Always   Nearly Always   Sometimes   Nearly Never   Never

4. How far did you feel engaged during SOK lectures?

Always   Nearly Always   Sometimes   Nearly Never   Never

5. Now that I have covered two SOK modules, my idea of SOK (when compared to that in Question One) is:

Much Worse   Worse   The same   Better   Much Better

Give ONE reason for your answer:

_____

Figure 1
Mini Survey

Question Title/ Answers	%
Relevance to everyday life	
Nearly Always	19
Sometimes	74
Nearly Never	7
Improvement of skills	
Nearly Always	16
Sometimes	65
Nearly Never	19
Engagement during lectures	
Always	14
Nearly Always	49
Sometimes	30
Nearly Never	7
After, when compared to before	
Worse	3
The Same	8
Better	74

Figure 2
Mini Survey – Feedback Data

I have just scratched the surface of a much deeper issue; nonetheless I feel that I 'initiated' a process of 'worthwhile change.' [29]

This study has identified three main areas for development. The first priority would be to further my research on relevance. I need to be better informed on the skills of other subjects, especially those indicated above, so that I can integrate them in SOK. Secondly, I have to deal with the issue of excessive detail, while helping students to study effectively. This will entail better lecture planning, based on learning-to-learn skills. Thirdly, I need to address the issue of the frustrated minority – those

29 M. Bassey, 'Action research for improving educational practice', in *Teacher Research and School Improvement: Opening Doors from the Inside*, R. Halsall (ed.) (Buckingham, 1998), 108.

who are totally estranged from the subject. This will be the toughest, yet the most appealing, challenge. Additionally, I believe that in light of the above research, any reform in further education should give precedence to consultation with students. More often than not, they know best.

I have seen, I have heard, but I am yet to 'conquer'. This is the spirit through which this action research will proceed. Nevertheless, for further inquiry, it is pertinent to ask if, as educators, we ought to have and use our 'conquering' power to dictate *what* and *how* students should learn. How far should we prescribe learning? In our search for giving students skills to study and live, are we actually encouraging them to engage actively in life or are they still passive bystanders with an opinion? Where and how do educators feature, in an information/social media dominated society? Are we really so indispensable in educating the future generations? If we are, we must strive to discover what is beyond our 'conquering' power, and if we should have power at all.

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Intercultural Communicative Competence as a Focus of Applied Linguistic Research in Poland

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Abstract: Since Poland joined the European Union in 2004, developing intercultural communicative competence (ICC) has become an important goal of foreign language education. The role of school instruction is not only to equip foreign language (FL) learners with appropriate language competence, but also to prepare them to understand FL cultures and successfully communicate with their representatives. Intercultural communicative competence has become a focus of a number of studies conducted within the area of foreign-language acquisition, those theoretically oriented and those aiming to approach this subject area in a more practical manner. The paper looks at a selection of recent studies that explore issues related to ICC conducted by Polish researchers and published in academic publications. The overview examines how the concept of ICC is understood and investigated in FL studies and what intercultural topics are most up-to-date in a Polish research context. The analysis highlights the areas that need more academic attention. It also describes Polish educators' endeavors to implement the principles of the intercultural approach in a foreign language classroom. This discussion should be of interest to researchers exploring foreign language issues as well as practitioners responsible for education.

Keywords: intercultural communicative competence, intercultural training, intercultural skills, intercultural approach

Since Poland joined the European Union in 2004, developing intercultural communicative competence (ICC) has become an important goal of foreign language (FL) education. The role of school instruction is not only to equip FL learners with appropriate language skills, but also to prepare them to understand FL cultures and successfully communicate with their representatives. Clear aims concerning this aspect of education are explained in formal documents, such as the *Core Curriculum* recommended by the Ministry of Polish Education,[1] based on the internationally acknowledged guidelines stated in *The Common European Framework of Reference for Languages*,[2] as well as in teaching syllabi and course-books used in Polish primary and secondary schools.

Intercultural communicative competence has become a focus of a number of studies conducted within the area of second-language acquisition, those theoretically oriented and those aiming to approach this subject area in a more practical manner. The paper looks at a selection of recent studies exploring issues related to ICC, conducted by Polish researchers and published in academic publications. The aim of this overview is to demonstrate how the concept of ICC is understood and investigated in FL acquisition studies and what intercultural topics are most up-to-date in a Polish research context. The analysis also highlights the areas that, in the opinion of the present author, need more academic attention. It is hoped that this discussion will interest researchers exploring second-language issues as well as practitioners responsible for education.

The principles of the overview

The overview is based on a selection of studies conducted by Polish applied linguists, published in academic journals, post-conference publications, and monographs. Diploma theses written by MA students

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1   Ministry of National Education (2012), Decree of the Minister 27.08. 2012 r. concerning the Core Curriculum for General Education in different types of schools <https://men.gov.pl/pl/zycie-szkoly/ksztalcenie-ogolne/podstawa-programowa> accessed July 2017.
2   Council of Europe, The Common European Framework of Reference for Languages: Learning, Teaching, Assessment <http://www.coe.int/en/web/common-european-framework-reference-languages> accessed July 2017.

under the supervision of the present author of the present paper were also taken into account. Most of the research papers analysed have been selected from two journals: *Neofilolog* – the journal of Modern Language Association of Poland (Pol. Polskie Towarzystwo Neofilologiczne PTN) and *Lingwistyka Stosowana/ Applied Linguistics/ Angewandte Linguistik* – the journal of Applied Linguistics Association of Poland (Pol. Polskie Towarzystwo Lingwistyki Stosowanej PTLS). Only the journal issues released in 2016–17 were overviewed. The other studies were selected from several post-conference publications and monographs published in 2007–17 and diploma theses produced in 2015–17. The purpose of the overview is not statistical; therefore the exact number of studies analysed is not given. Since the main aim of the analysis is to single out topics which are the foci of intercultural research and to look at how these topics are explored, only studies viewed by the author as representatives of particular groups of studies are referred to and discussed. As a result of the analysis, a wide range of topics have been identified and are discussed below under the following headings: theoretical principles of ICC, developing ICC in a FL classroom, ICC in FL course-books, and a new role of a FL teacher.

Theoretical principles of ICC

Most of the studies overviewed refer in a very explicit way to Byram's[3] model of intercultural communicative competence (ICC). This theory of developing intercultural communicative competence is also presented in *The Common European Framework*[4] as a basis for defining the competencies of FL learners. In the afore-mentioned model, ICC is defined as a combination of five elements that should be developed in FL teaching: attitudes, knowledge, skills of interpreting and relating, skills of discovery, and interaction as well as critical cultural awareness. Attitudes embrace curiosity, openness, and willingness to communicate. Knowledge refers to learning about one's own and other cultures, their products and policies, such as daily life, history, art, institutions, and

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3   M. Byram, *Teaching and Assessing Intercultural Communicative Competence* (Clevedon, 1997).

4   Council of Europe.

non-verbal behaviour. Studying gestures, facial expressions, dress codes, attitudes to nudity, use of public space, proxemics, eye contact is considered to be key issues in intercultural training. Developing skills of interpreting and relating involves equipping students with the ability to interpret a document or event from another culture as well as practising how to explain and relate to documents or events from one's own culture. There is one more set of skills that according to the model should be developed by FL students: skills of discovery and interaction, which involve establishing an understanding of a new environment and interaction with the representatives of foreign cultures. A crucial component of the model is critical cultural awareness – the ability to evaluate critically, to justify opinions about and think critically of one's own culture and the foreign one. Critical cultural awareness revolves around viewing other cultures in a more objective way and being aware of potential areas of conflict.

The studies overviewed refer to the afore-mentioned model of ICC for a number of practical reasons. The model serves as a point of reference in the process of designing curricula and writing course-books, as well as designing classroom activities. In all the cases it helps educators to elucidate the principles of the intercultural approach and discuss activities that can enhance FL learners' intercultural competence. The way Byram's theory has inspired FL educators is explained in the further sections of the paper along with the discussion of the particular studies. The findings of the analysis show that theoretical principles of ICC are not a frequent subject of applied linguistic research. A study worth emphasizing is Owczarek's[5] discussion of philosophical foundations for developing ICC. The author suggests Critical Theory and Gadamer's[6] hermeneutics as philosophies that stand behind ICC. She also underlines the importance of Bakhtin's[7] idea of dialogue. She refers to Guilherme's[8] book *Critical Citizens for an Intercultural World* as a useful source to understand the idea of critical cultural

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5   D. Owczarek, 'The philosophical foundations for developing Intercultural Communicative Competence: the role of dialogue', in *Dialogue in Foreign Language Education*, ed. M. Kusiak (Kraków, 2009), 39–45.
6   H.G. Gadamer, *Truth and Method* (London, 1970).
7   M.M. Bakhtin, *Speech Genres and Other Late Essays* (Austin, 2004).
8   M. Guilherme, *Critical Citizens for an Intercultural World: Foreign Language Education as Cultural Politics* (Clevedon, 2002).

awareness as the basis of Critical Theory which elucidates the concept of understanding and the way it is achieved. In Owczarek's opinion, Gadamer's concept of Building (i.e. a self-forming process) is of high value in understanding the nature of developing ICC. Owczarek explains that when going through the process of Bildung, we develop sensitivity, character, and an ability to understand and evaluate our own culture, which in turn would enable us to develop a skill of analysing and appreciating other cultures. Owczarek considers the focus on critical cultural awareness as the main objective of developing ICC in the process of becoming critical citizens of an intercultural world. The researcher emphasizes 'the role of dialogue as the main prerequisite of intercultural relations'.[9] She explains that '[o]nly true dialogic relations allow people to become responsible and worthy citizens who can speak their own voice and recognize the voices of the other'.[10] Therefore, she suggests that language education along with dialogic pedagogy promote the concept of cultural dialogue.

Developing ICC in a FL classroom: Principles and techniques

A substantial number of studies focus on very practical questions: how teachers can incorporate the intercultural component in their teaching, what materials and what techniques can be effective.

A popular way of enhancing ICC is a microetnographic approach (Siek-Piskozub),[11] which involves studying text or watching video materials and discussing their intercultural content. A technique that can sensitize FL learners to differences between cultures is an analysis of critical incidents in a given situation, i.e. situations that are examples of intercultural conflicts. A useful technique can be asking learners to keep a personal diary during their journey (Bandura).[12] The process of writing about one's experiences can be a valuable opportunity to reflect on foreign cultures and to observe the changes in one's opinions and values.

9   Owczarek, 43.
10   Ibid.
11   T. Siek-Piskozub, 'Kompetencja międzykulturowa – koncepcje i wyzwania', *Neofilolog*, 46/2 (2016), 137–52.
12   E. Bandura, *Nauczyciel jako mediator interkulturowy* (Kraków, 2007).

A similar technique that can enable students to challenge their attitudes to foreign cultures is accultural training suggested by Jankowska and Bodzioch.[13] The training is based on simulations that resemble real-life situations and provide students with an opportunity to act out and understand the rules that function in different cultures. Learners are given a task which illustrates a situation that may lead to an intercultural problem. They play their roles and suggest a solution. For example, learners play representatives of two different cultures: monochronic (demanding punctuality from others) and polychronic (not respecting rules concerning time). Students experience problems that the two cultures may encounter and are encouraged to talk about their understanding of the situation.

As emphasized earlier, a crucial element of building intercultural competence is developing the awareness of one's own culture. Aleksandrowicz-Pędich[14] suggests intercultural activities that can stimulate learners to gain insights into their own culture. She recommends a number of activities that aim to make learners think about and discuss their daily routines, social practices, and non-verbal behaviour. Good examples of intracultural activities are class discussions about social rules concerning eating habits, visiting someone's home, kissing in public, and taking off shoes. Aleksandrowicz-Pędich[15] believes, referring to Kapuściński,[16] that: 'to understand yourself better, you have to learn about the Others, because they are the mirror in which we see ourselves. Through looking at the Other we may better understand our own culture, behaviour and emotions, and only then can we try to explain ourselves to the Other.'

Stereotypes constitute a vital element of all cultures and it is crucial that intercultural training encourages learners to understand their role in intercultural communication. Piotrowska-Paprocka[17] suggests that FL learners watch TV commercials or newspaper advertisements based on

13 I. Jankowska, M. Bodzioch, 'Trening akulturacyjny a rozwijanie interkulturowej kompetencji komunikacyjnej', *Neofilolog*, 46/2 (2016), 221–34.

14 L. Aleksandrowicz-Pędich, 'Intracultural dialogue during intercultural activities', in *Dialogue in Foreign Language Education*, ed. M. Kusiak (Kraków, 2009), 23–33.

15 Ibid., 33.

16 R. Kapuściński, *Ten Inny* (Kraków, 2006).

17 U. Piotrowska-Paprocka, 'Stereotyp w dialogu interkulturowym – wprowadzenie do warsztatu', in *Dydaktyka języków obcych na początku XXI wieku*, M. Jodłowiec, A. Niżegorodcew, eds. (Kraków, 2007), 287–92.

stereotypes preferably connected with their own culture and exchange opinions about how stereotypical ideas function in the given texts and in a particular culture. Such discussions are likely to raise students' awareness about the quality of their own knowledge of other cultures and facilitate their understanding of possible sources of intercultural conflicts.

Media are also a crucial component of the approach suggested by Wilczyńska.[18] Following *The recommendation of the European Parliament on key competences for lifelong learning*,[19] the researcher suggests an integrated approach in which learners develop media communication skills along with intercultural competence. Using as an example a selection of texts published in the online version of *New York Times*, Wilczyńska[20] explains that 'IC competence implies personal development, openness, and critical thinking, all of these contributing to the improvement of cross-cultural communication in our global village'.

Intercultural training should not focus only on analysing social behaviours functioning in specific foreign cultures. Learners should be provided with opportunities that will help them to reflect on the connection between language and culture. Kramsch[21] claims that, in analysing culture, one needs to look at abstract concepts (such as democracy or pluralism) that function in a given culture. Following this idea, Strugielska[22] suggests activities based on cognitive linguistics that can enhance learners' intercultural awareness – viewed by the researcher as the ability to comprehend and (re)interpret the meaning of terms that correspond to concepts. Her seminar 'Metaphors across Europe: Language, culture. and the mind' prepared for an international group of Erasmus Plus students is an example of how both cognitive linguistics

18   W. Wilczyńska, 'Integrating Intercultural (IC) and Media Competence: the DSK affair from a cross-cultural perspective', in Exploring the Microcosm and Macrocosm of Language Teaching and Learning, eds. E. Mańczak-Wohlfeld, M. Jodłowiec (Kraków, 2013), 181–96.

19   Recommendation of the European Parliament and the Council on Key Competences of 18 December 2006 for Lifelong Learning;,http:\\enil.ceris.cnr.it\\Basili\\EnIL\\gateway\\europe\\EUkeycompetences.htm(accessed 20 July 2017)

20   Wilczyńska, 182.

21   C. Kramsch, 'Language and culture', in Routledge Handbook of Applied Linguistics, ed. J. Simpson (New York, 2010), 305–17.

22   A. Strugielska, 'Językoznawstwo kognitywne a rozumienie kompetencji międzykulturowej w kontekście umiędzynarodowienia szkolnictwa wyższego w Polsce', Neofilolog, 47/1 (2016), 93-107.

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and intercultural communication theories can be successfully integrated in intercultural training.

A linguistic perspective as a theoretical foundation for developing ICC is also suggested by Dryjańska.[23] Drawing on Wierzbicka's[24] cross-cultural linguistics, she advocates a reflective approach to one's native language and a foreign language. The author assumes that intercultural training should sensitize FL learners to the meaning of FL words which Dryjańska views as the key elements of the language and culture relation. For example, students can be asked to reflect on the meaning of value words, i.e. vocabulary items that express certain values. An activity can involve comparing two similar words, e.g. *friend* (Eng.) and *przyjaciel* (Polish) or *freedom* (Eng.) and *свобода* (Russian). The author believes that this semantic analysis can serve two purposes: FL learners practise the skills of discovering the real meaning of words within their cultural background and develop ethical attitudes towards foreign cultures as well as their own culture.

A common technique of developing ICC in school learners is organizing intercultural meetings, which is the subject of Kic-Drgas's[25] study. The most popular forms of intercultural meetings are exchanges of school learners from different countries, e-Twinning projects, projects conducted by universities from different countries, international festivals, and exhibitions. Kic-Drgas conducted the survey among Polish and German teachers responsible for organizing international exchanges of their school students. The respondents emphasized the benefits of this form of international meetings. The exchanges resulted in the students' increased sensitivity and awareness of different cultures and enhanced openness to foreigners. They also provided the learners with a valuable opportunity to challenge stereotypes they had held about foreigners and their country.

Another type of intercultural meetings are international projects conducted by educational institutions. An example is a joint project of the Jagiellonian University in Kraków, Poland and the National University in Ivano-Frankivsk, Ukraine, entitled 'Developing

23 A. Dryjańska, 'Słowa-wartości: interkulturowość ukryta w językach', *Neofilolog*, 47/1 (2016), 37–52.
24 A. Wierzbicka, *Słowa Klucze. Różne Języki* – Różne Kultury (Warszawa, 2013).
25 J. Kic-Drgas, 'Spotkania międzykulturowe z perspektywy organizatora – cienie i blaski', *Neofilolog*, 47/1 (2016), 109–22.

intercultural competence through English'. The outcome of the project is a collection of essays edited by Niżegorodcew, Bystrov, Kleban,[26] in which Polish and Ukrainian writers, both scholars and university students, discuss issues about their culture that can be of interest to foreigners. Aleksandrowicz-Pędich,[27] the reviewer of the book, observed an interesting difference between the participants of the project: Ukrainians focused on the characteristic and attractive aspects of their own culture, e.g. Ukrainian customs and traditions; whereas Polish authors wrote about problematic and difficult issues, such as Polish people's attitudes to religion. Another example of an international project is CEReS (*Cross-cultural Curricula for European Regions and their Students*) Project[28] conducted by Icelandic, British, Polish, Bulgarian, and Swedish scholars, whose goal was to design an intercultural curriculum for business students. The main material was obtained from the interviews with businessmen in the five countries.

All the studies described above concern teaching techniques and materials that can be useful in the process of fostering FL learners' ICC. Not many studies overviewed for the purpose of this paper discuss the issue of evaluating ICC, the aspect of teaching that seems important especially in formal education. The study worth discussing here is the one by Owczarek,[29] in which the author explains the advantages of the application of dynamic assessment (DA) to ICC evaluation based on Vygotsky's Sociocultural Theory. The DA model can help educators to assess a development of knowledge, skills, and attitudes related to students' ICC. A novelty of the model lies in viewing all these intercultural elements as being in a constant dialogue. Thus assessment would aim 'more at stating whether the process of training heads towards the required direction rather than positioning students' competence at a definite point of the assessment scale'.[30]

26   A. Niżegorodcew, Y. Bystrov, M. Kleban (eds.), *Developing Intercultural Competence Through English: Focus on Ukrainian and Polish Cultures* (Kraków, 2011).

27   L. Aleksandrowicz-Pędich, in *Developing Intercultural* …, eds. A. Niżegorodcew, Y. Bystrov, M. Kleban, fourth cover.

28   L. Aleksandrowicz-Pędich, *Rozwijanie Kompetencji Interkulturowej na Studiach Biznesowych, Propozycje Programowe* (Białystok, 2006).

29   D. Owczarek, 'ICC assessment – experiences and perspectives', *Glottodidactica. An International Journal of Applied Linguistics*, XLIII/2 (2016), 213–22.

30   Ibid., 218.

ICC in FL course-books

It seems undeniable that course-books are still the main materials used in formal instruction. The quality of intercultural material they provide has been a common focus of recent studies. The results of course-book evaluation studies (e.g. Spychała,[31] Wajdzik[32]) indicate that although contemporary course-books offer a rich choice of content to teach factual knowledge of foreign cultures, they lack materials that could enable learners to develop intercultural skills and attitudes. Culture of foreign countries is presented in a superficial manner, without sensitizing learners to core values of the culture presented (Piwowarczyk).[33]

A new role of a FL teacher

The role of the teacher in the process of fostering ICC has been widely discussed in applied linguistic research. It is suggested, e.g. by Bandura[34], Mihułka,[35] that a FL teacher should be an intercultural mediator. The teacher is expected not only to possess good knowledge of foreign culture and of his own culture but also to demonstrate sensitivity to other cultures and eagerness to develop himself as a member of an intercultural dialogue. Needless to say, the teacher should constantly develop the repertoire of techniques to enhance his students ICC.

The studies (e.g. Bandura,[36] Mihułka[37]) show that even experienced teachers do not feel prepared to become intercultural mediators for

31   M. Spychała, 'Model kompetencji interkulturowej a kryteria oceny materiałów na uczenia na przykładzie podręczników do nauki języka hiszpańskiego', in *Dydaktyka Języków Obcych na Początku XXI wieku*, eds. M. Jodłowiec, A. Niżegorodcew (Kraków, 2007), 267–74.

32   M. Wajdzik, 'Developing intercultural communicative competence in Upstream Intermediate – coursebook evaluation', unpublished MA thesis (Kraków, 2014).

33   A.J. Piwowarczyk, 'Kultura w podręcznikach do nauki języków obcych jako czynnik wpływający na rozwój międzykulturowej kompetencji komunikacyjnej', *Neofilolog*, 47/1 (2016), 67–80.

34   Bandura.

35   K. Mihułka, 'Mediator interkulturowy – nowa rola nauczyciela języków obcych', in *Nauczyciel Języków Obcych Dziś i Jutro*, M. Pawlak, A. Mystowska-Wiertelak, A. Pietrzykowska, eds. (Poznań–Kalisz 2009), 61–70.

36   Bandura.

37   K. Mihułka, 'Edukacja międzykulturowa – założenia, cele, zadania', in *Słowo w Dialogu Międzykulturowym*, W. Chłopicki, M. Jodłowiec, eds. (Kraków, 2010), 355–64.

their students. Polish teachers of foreign languages, as found by Bandura,[38] express the opinion that this role should be shifted to native-speaker teachers. Much attention is given to preparing both in-service and pre-service teachers for this challenging role (e.g. Siek-Piskozub[39]). Another example is the European Master for European Teacher Training Project (described by Niżegorodcew),[40] whose main aim was to design the course for teacher trainees that can enhance intercultural competence.

Summary and conclusions

The overview presented above indicates that in Poland ICC has become an important subject of investigation. ICC is explored in many different research contexts – international projects, studies undertaken by individual researchers, and also MA theses. In terms of methodology applied, the most popular are questionnaire studies, studies based on course design, evaluation of teaching materials, including course-book evaluation, as well as action research studies (i.e. studies in which researchers draw on their teaching experiences). A substantial part of the presented studies explore practical aspects of learning and teaching of ICC, such as principles and techniques of training students and teachers, designing teaching materials. Unfortunately, very few studies focus on evaluating ICC of FL learners. The overview of intercultural research points to a relatively small number of studies explore theoretical foundations of developing ICC.

Intercultural research in Polish Academia is burgeoning. It seems that in the future more studies should address the issue of evaluating ICC, which is an important aspect of formal instruction. More attention should be paid to theories and models that can serve as foundations for developing ICC and the springboard for further empirical research. It

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38   Bandura.
39   T. Siek-Piskozub, 'Enhancing autonomy in the context of an "ICC development" seminar', in *Exploring the Microcosm and Macrocosm of Language Teaching and Learning*, E. Mańczak-Wohlfeld, M. Jodłowiec, eds. (Kraków, 2013), 217–28.
40   A. Niżegorodcew, 'Semestr mobilny w unijnym projekcie kształcenia nauczycieli szkół średnich', in Pawlak, Mystowska-Wiertelak, Pietrzykowska (Poznań–Kalisz 2009), 257–65.

would be also advisable if applied linguists look at ICC from a more interdisciplinary perspective, which would mean embarking on more collaborative research with representatives of other disciplines, such as philosophers and sociologists.

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The Language of Design in Baroque Architecture: Looking for 'Connections' through Francesco Borromini's Works

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Abstract: This paper attempts to discuss how Francesco Borromini, an architect in the Baroque age, was able to 'connect' different disciplines to construct exceptional buildings that managed to communicate with visitors in a very strong manner. He devised a new methodology that, although initially misunderstood, ended up being a proper language of design. To do this, various elements will be analyzed and discussed.Borromini used spaces as concrete materials that he shaped and manipulated in an original way, managing to create the illusion of greater spaces; by using different geometric forms and intersecting them to create other more complicated designs, he had better flow and movement between the internal elements. He also made his imposing façades relate with the other surrounding buildings in the urban space outside, creating a pulsating force even between spaces that were mutually interdependent.

Borromini also utilized original and ingenious ornamentation, the installation of which involved great technical difficulty. He 'connected' his aesthetic vision for his buildings with his scientific knowledge as may be appreciated in his use of perfect proportions to scale and in his eye for detail manifest in every architectural element, be it a base, an angle, or a bend. He worked around a centre integrating the uniform vertical walls with it and then proceeded to create a relationship with the outside urban spaces. Borromini synthesized existing schemes such as the Greek cross, the circle, the octagon, and the Latin cross to come up with innovative complex spaces that expressed his innermost beliefs and feelings but which were also integral parts of the message and philosophy of the Baroque age.

Keywords: Baroque architecture, language of design, synthesis and connections

Whenever an attempt is made to reflect on the sensations experienced while enjoying exceptional examples of architecture, one remains in no doubt that an explicit visual language exists that communicates a definitive message to those open to receive it. This is not only determined by the aesthetic characteristics of the buildings but on other various mathematical and scientific considerations employed by the architect and, in certain occasions, dependent on the philosophical and theological ideas of the age. An architect's main focus when commissioned to design a building still remains the application of his technical knowledge to come up with a plan to create a stable structure within the economical restrictions imposed on him. From this point onwards the architect's creativity comes into play. The artist and the scientist in the architect need to come together for the conception of exceptional works. If there is one age where this is particularly true, this is the Baroque Age. During this period of great exaggerations, of excessive shows of powers by the Church and by the State, every medium was utilized, be it music, paintings, sculpture, and also architecture to pass on the message to the followers. The 'connections' between scientific and mathematical concepts, the language of design and the influence of the new philosophical ideas may be appreciated when analysing some of the most attractive and emotionally moving buildings of all times, the works of Francesco Borromini.

Borromini's works were chosen to demonstrate these 'connections' as his ultimate designs, more than those of other well-known architects, took the form of a very strong language, at the time not immediately understood, as most innovative ideas. He used a new methodology based on experimentation that evolved when he re-evaluated old techniques and amalgamated them with the new philosophical ideas of Rene Descartes and Euclid. Juan de S. Bonaventura first described the effect that Borromini's work when he spoke of the visitors to the little church of S. Carlo alle Quattro Fontane in Rome saying: 'And when they are in the church they do nothing but look above and all around them, for everything therein is so disposed that one thing leads to another'.[1] What is so special about these this Baroque architect whose works bring about deep emotions in his admirers? What new language that knows no boundary of time can communicate in this way?

1   P. Portoghesi, *Roma Barocca* (Rome, 1988), 375.

Francesco Borromini, the innovative and ingenious architect, was misunderstood during his lifetime and the following centuries and it was only after 1920 that German art historians began to re-assess his work; it took another twenty years before his genius began to be appreciated.[2] From being labelled an eccentric and psychotic individual, today he is considered as the purest of all Baroque architects and a truly professional one. His exceptional talent boils down to his vision and how he applied it when he designed his buildings and how he used his mathematical and scientific knowledge and integrated these with his aesthetic values. Essentially, architecture is building according to a set of conditions that may be functional, economical, political, or even social.[3] Borromini had the ability to solve the problems he was presented with by what was considered as 'bizarre designs'. He was capable of doing this because he knew the vocabulary and the language of design and so could come up with a limitless range of possibilities that did not necessarily solve exclusively the functional problem but went beyond that. He explored 'connections' with other disciplines to manipulate and organize space and form, at the same time also focusing on the meaning his buildings would impart. Borromini could create unifying and coherent structures by integrating all the important elements and systems of architecture. To fully appreciate his talent, these elements need to be considered holistically.

Space and form

Borromini treated space as a concrete material that he shaped and manipulated. During the Renaissance and the Early Baroque periods, new building methods were being experimented with to express intense messages as part of the social and political conditions of the time. The 'abstract' relationship between plastic elements and their meaningful spatial distribution began to be contemplated. Even though Borromini did use some of these methods, he looked for more original and innovative ways to use his spaces. Renaissance architects worked with straight lines, volumes and the application of the classical canons using

2   J. Glancey, 'Borromini: the first architect', *The Guardian*, 5 February 2011.
3   F.D.K. Ching, *Architecture-Form Space and Order* (New Jersey, 2007), p. ix.

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double columns, a combination of pillars and columns, the giant orders, and pediments.[4]

Borromini used much more complex designs that seemed to create an indivisible whole. He also tried to use his designs to create the illusion of space. The best two examples are seen in the cloister at S. Carlo where he gives unexpected breadth to his space by cutting off the corners and instead creating convex corners with pillars. He also tries something similar at the Galleria Spada where he showed that, by using geometry of curves, space could be modelled like a rex extensa, controlling it and dilating it.[5] By slanting the roof downwards and the floor upwards and by displacing the columns which were not all the same height and projecting away from the wall behind, he created shadow play and an illusion of a much longer gallery. Even though Borromini started off his designs by visualizing what he could create with the space available, he ended up creating geometric forms inspired by simpler geometric shapes.

Borromini's Design of the
Perspective Gallery
at Palazzo Spada
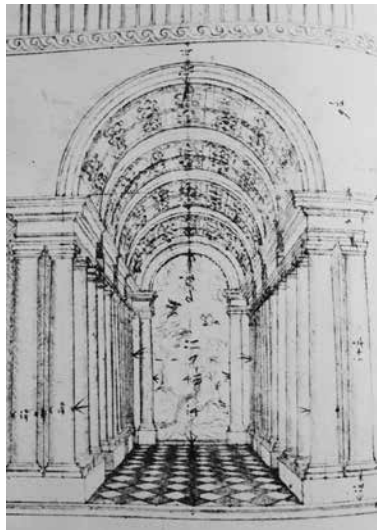
Starting off with a regular shapes and forms like the sphere which is symmetrical and has an infinite number of lines of symmetry which could act as his axes, he would then transform it dimensionally, or add

4   C. Norberg- Schulz, *Baroque Architecture* (Milan, 1979), 97.
5   Portoghesi, 139.

on or subtract other elements. Thus he would create ovoid or ellipsoidal forms by elongating the sphere along its axis. Borromini did this with the space inside to form an elliptical dome as found at the church of S. Carlo alle Quattro Fontane where he was using his innovative method to respond to one of the problems he faced, that of restricted space.[6] Being his first commission as an individual architect in Rome, it seems that it was his wish to be original. Borromini worked with geometric shapes just as Renaissance architects did but he intersected these geometric shapes to reduce the space required for the construction. Traditionally it was inconceivable to superimpose three different structures. By doing this he opened up the development of new architectural possibilities, later acquired by Guarino Guarini in Turin who became renowned especially for the plastic continuity of his domes.[7]

Elliptical Dome of the Cloister at San Carlo alle Quattro Fontane

What makes Borromini's architecture more baroque in essence than that of the other architects is the movement and the plasticity it portrays. Nothing seems to be static in his creations; in fact, they seem

6   Ching, 52.
7   U. Eco, L'età moderna e contemporanea, *Il Seicento*, Vol. 5 (Milan, 2012), 94.

to have a life of their own. Borromini goes from straight to curved lines to even more complex curved forms. This made his buildings look extraordinarily dynamic, especially when seen in relationship to the urban space.[8] He took this further when he made his interiors interact with the exterior. This idea that when looking at the façade of S. Carlo and then entering inside, exterior and interior forces seem to be working together, the directional movement of the street outside and the expansive space inside. The façade varies the movement of the inside and then the variation continues all around the church.[9] He was forever experimenting how he could use space and also how to create an illusion of even more space.

Borromini went even further when, because of restrictions of space, he had to work with several mutually interdependent spaces. He did not treat these as extensions to each other as was usually done by other architects but as interacting spaces with pulsating forces. One example is the convent and church of S. Maria dei Sette Dolori in which the vestibule seems to contract and the space in front of the concave façade seems to expand. This principle of pulsating juxtaposition was intrinsically different from spatial interpenetration which was the principle used by all other architects at the time. This new vision would in fact influence greatly the development of Baroque architecture, as a more complementary approach to different spaces began to be adopted, be it the interior and exterior or be they different spaces in a clustered organization.[10]

Proportion and scale

Most of the newly constructed buildings by Borromini were small in scale, which is probably why he tried to compensate with complex designs and plans with perfect proportions. He only received very few commissions as the more popular Gian Lorenzo Bernini clinched all the mega-projects. When Bernini's work is analysed, however, one can note that, even though he had many very large-scale projects, his

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8   Ibid., 92.
9   Norberg-Schulz, 112.
10   Ibid., 113.

Centralized Organization and Vertical Integration – illustrated by the hypothetical reconstruction of the interior of San Giovanni Laterano, and the ceiling, on a much smaller scale, of the Cappella di Tre Magi at the Collegio di Propaganda Fide.

architectural forms are very simple. Bernini then used other art forms to create detail and compensate for this simplicity managing to create that sensation of awe that was characteristic of the Baroque age, whereas in Borromini's buildings this sensation is created through the architecture and feels like he meditated on each and every element, be it a base, an angle, or a band.[11]

Borromini only got the chance to work on the design of a large church in 1646 when he was asked to restore S. Giovanni in Laterano, an Early Christian basilica. Limited with the actual structure, the available budget, and the imposed time frame (it had to be ready for the Papal Jubilee of 1650), Borromini encased pairs of existing columns in pillars creating arches that led to the aisles. This saw the creation of centralized small units with the concave corners typical of his work, forming a group of mutually interdependent spaces. His plan was to vault the nave and give it the same treatment he gave to the Propaganda Fide chapel but he was not allowed to do so owing to the cost the diagonally disposed ribs he wished to construct to join the walls would incur. In a

11   A. Munoz, 'La formazione artistica del Borromini', *Rassegna d'arte*, 19 (1919), 103–17.

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sense the same harmony found in his other churches designed and built by him from scratch could not be replicated because of the limitations imposed of him. Still this is a fine example which illustrates what he would have been capable of doing had he been entrusted with larger projects.[12]

Centralized organization and integration vertically and with the urban space

In all his plans, when space permitted, Borromini always tried to work around a centre created with diagonal directions. In his first work in the Cappella del SS. Sacramento in S. Paolo fuori le Mura where he was assisting Maderno, the rectangular space had no pilasters in the corners so the concave shape was carried on in the vault for vertical continuity, giving a diagonal orientation to the space.

Borromini used the same solution in the Cappella dei Re Magi in the Palazzo di Propaganda Fide built after 1660. Here he also integrated vertically the uniform and perfectly continuous wall and even here the space creates the diagonal directions stressing the centralization process created on plan. This is repeated in the cloister of San Carlino, where again there are no corners but convex structures that form a unified space which integrates all the three dimensions around a central point.[13] That Borromini understood the spaces around him and could see the bigger picture may be seen in his solution for the church of S. Agnese in Agone that Rainaldi had started with the Pampfili family and which then he was asked to complete The problem that he faced was that the width of Piazza Navona was not wide enough to enjoy and appreciate fully when facing the church. His simple yet ingenious way of solving this problem was to build the dome in line with the recessed façade and, together with the belfries, he managed to create an illusion of grandeur. This feat was not an easy one considering that the very small area designated for the church was almost as long as it was wide. With his design, although at first glance one sees a traditional church following the Spanish model, it only looks so harmonious with the rest of the urban space because

12   Norberg-Schulz, 122.
13   Ibid., 98.

there is so much technical knowledge and thought behind the design. The dome of S. Agnese is like a large mass in the space of the piazza and Borromini managed to create a relationship between his building and the rest of the urban space in a truly Baroque fashion.[14]

Originality

What is considered as his most important work, the church of S. Ivo della Sapienza in Rome's old University La Sapienza integrates most of Borromini's original ideas. The area demanded a centralized structure at the end of an existing courtyard. Any other architect would have chosen a traditional scheme, such as an octagon plan or the Greek-cross plan but Borromini chose a hexagon with alternating apses and recesses with a convex fond which he then treated with his undulating walls. The six corners of the hexagon that were structurally the most important were given double pilasters with single ones in the apses and recesses. Then ribs from the top of these double pilasters rise to hold the ring of the lantern. Differentiating and transforming ideas of previous ancient builders, Borromini manages to create an integrated whole with vertical continuity, creating a complex ground plan and continuing it without interruption to the dome. Again the exterior is complementary to the interior. Borromini with this relatively small space managed to portray the Baroque spirit as no other architect, simply by his original and special solutions.[15]

    With a larger space, as in the oratory and Roman house of the Congregation of S. Filippo Neri, Borromini was faced with the challenge of organizing a cluster around an already existing church and its large sacristy. He integrated the latter between a courtyard and a garden and, in so doing, had to move the main axis because of the irregularity. Borromini's façade is an exercise in complex volumes and involved surfaces, with a concave curvature in the centre. This was purposely designed to send an important message to all visitors: that of open arms waiting to welcome anyone who cared to enter.[16]

14   Ibid., 22.
15   Ibid., 117.
16   Ibid., 112.

Ornamentation

When it came to the decoration inside the churches, Borromini was creative, original, and ingenious. His favourite motif by far was the winged angels' heads that he then applied to the metamorphosis of abstract decorative architectural elements, such as the angel's wings on the pediment of the facade of S. Carlino or the ovolo of the cornice at S. Ivo replaced by little faces of angels flanked by wings.[17] Another favourite were the bursting pomegranates found on the capitals of S. Giovanni Laterano and the baskets of pomegranates on the monument of Cardinal Guissano.[18]And the doorway at Palazzo Carpegna with the hanging wreath of flowers and the Medusa head is among the most original, whilst the window cornices of Palazzo Barberini attributed to him were decorated with sea shells.[19]

Although, compared to Bernini, Borromini did not use much decoration in his buildings, mostly because his clients were, to say the least, not the richest, whenever he did, he had such an original way of creatively applying these to his structures, that his work was very easily identifiable and not easy to forget. A quick aerial view of Rome with the facility to zoom in, the lantern of the church of S. Ivo della Sapienza and the bell tower of S. Andrea delle Frate would surely leave an imprint on any mind.

Borromini's methodology

Borromini introduced a new methodology based on experimentation which required the presence of the architect at all times during the construction as all the phases had to be rigorously controlled and which had to proceed in a complementary way with the idea on plan. He re-evaluated old techniques used by other architects. Here Borromini is seen as superior and his maturity since his formative years in Lombardy working on the restoration of the Duomo in Milan became clearly manifest.[20] His inspiration came from the ancient builders and from the

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17 F. Lemerle and Y. Pauwels, *Baroque Architecture 1600–1750* (Paris, 2008), 73.
18 A. Blunt, *Borromini* (London, 1979), 152.
19 Portoghesi, 165.
20 Eco, 94.

works of Michelangelo.[21] He may have also been inspired by nature as it was during this time that philosophers like René Descartes were promoting this idea of nature's mathematization and Euclid's theories of geometry were being applied to cosmology. In a letter sent to Cardinal Camillo Pamphili regarding his villa with 32 windows, Borromini expressly writes that the whole building would be a study in applied mathematics.[22] Borromini's best contribution to architecture although at first so poorly understood remains a new method of handling space. With this method he solved the various problems he faced using the principles of variation, interdependence, and continuity. With fusions and transformations of the classical orders he introduced a psychic dimension involving inside and outside forces that was innovative to say the least.[23]

Borromini synthesized existing schemes such as the Greek Cross, the circle, the octagon, the Latin Cross, and the sequence of domed units to come up with innovative complex spaces. He developed the principle of pulsating juxtaposition, basing his work not only on his knowledge of mathematics and physics but on the contemporary philosophies, together with his own aesthetic vision. Making these 'connections' between these disciplines, one may conclude that Borromini was a truly exceptional Baroque architect who showed he was capable of incorporating these in his work in innovative ways, communicating in a distinctive language of design.

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21   Blunt, 29–37.
22   Ibid., 50.
23   Norberg-Schulz, 122.

Sense-making across Disciplines: Physical Models, Theoretical Frameworks, and the Connections between Education in the Humanities and Sciences

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Abstract: Across disciplines, the fundamental goal of authentic learning is sense-making: making sense of the world around us, our interactions, and art. As education shifts from a discipline focused on propagating knowledge as 'stuff' to a focus on propagating understanding and teaching the means towards understanding, the learning of sense-making practice across the disciplines is becoming more important. In the recent past, education at nearly all levels has focused on the teaching of facts. The practices of experts within disciplines were taught rarely, if at all, and almost exclusively at the level of domain-specific skills. However, sense-making practices are surprisingly universal, and not just across the sciences. In this paper, I discuss the parallels between the sciences and humanities with respect to the practice of sense-making, specifically the mental/physical models in the sciences and the theoretical frameworks deployed in the social sciences and the humanities. I will make the case that we should begin addressing in our classrooms the cross-cutting nature of the practices of all learners, so that students can see how what they are doing when analysing history is not epistemologically dissimilar to their physics class.

Keywords: sense-making; models; theoretical framework; science practice

Across disciplines, the fundamental goal of authentic learning is sense-making: making sense of the world around us, our interactions, and art. Sense-making goes beyond content knowledge. For example, when studying history, knowing when and where something happened is necessary but insufficient to the understanding of why and how. Knowing science facts, like the shape and location of the mitochondria is necessary but insufficient to the understanding of its role in the cell. Knowing and identifying plot structures is necessary but insufficient to the understanding of the author's message or the work's place in culture. Knowing in general is necessary but insufficient to understanding.[1]

As education shifts from a discipline focused on propagating knowledge as 'stuff' to a focus on propagating understanding and teaching the means towards understanding, the learning of sense-making practice across the disciplines is becoming more important. In the recent past, education at nearly all levels has focused on the teaching of facts.[2] The practices of experts within disciplines were taught rarely, if at all, and almost exclusively at the level of domain-specific skills. However, sense-making practices are surprisingly universal, and not just across the sciences.

This paper will discuss the parallels between the sciences and humanities with respect to the practice of sense-making: mental/physical models in the sciences and the theoretical frameworks deployed in the social sciences and the humanities. In particular, I will discuss the universal theory of learning called 'situated cognition,' and its application to multiple disciplines, including science. In particular, we will look at how modelling and testing in science parallels building and using frameworks in other disciplines, and how the sharing of effective teaching strategies across the arts/science divide could be beneficial for everyone. To this end, I will discuss my science education group's work on teaching science practice with respect to modelling and how integrating practice with context/content leads to understanding and knowing within the context of situated cognition. Specifically, I shall describe and demonstrate the teaching theory called 'cognitive

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1   J. Greeno, 'Gibson's affordances', *Psychological Review*, 101 (1994) 336–42.
2   J.C. Moore, *Creating Scientists: Teaching and assessing science practice for the NGSS* (New York, 2017), 22.

apprenticeship,' and show how this framework for teaching can be used across disciplines to develop broader sense-making abilities.

When focusing on the practices of science that are universal, the learner begins to make the connections between disciplines and see investigation as a universal process for truth-seeking as opposed to a context-depended means to learning facts within a tiny domain. Their entire epistemology changes, and this which we have found is fundamental for students making the novice-expert transition.[3] I shall make the case that we should go one step further and begin addressing in our classrooms the cross-cutting nature of the practices of all learners, so that students can see how what they are doing when analysing history is not epistemologically dissimilar to their physics class.

Situated cognition: a theory of learning

Situated cognition is a learning theory that assumes all knowledge is situated in actions that occur within cultural, social, and physical contexts.[4] In simpler language, knowledge is inseparable from doing. More importantly, knowledge cannot be separated from the means in which the knowledge is learned by the community that 'knows' it. In our case, situated cognition tells us that students can only understand science or humanities ideas if they understand how the practice of the practitioner leads to those ideas.

What does it mean 'to understand' a topic. Within the framework of situated cognition, three fundamental components combine within the learner's mind to form a deep understanding: (1) content knowledge, (2) practice abilities, and (3) appropriate reasoning to link the practice to the knowledge.[5] These three components can be considered the three legs of a stool: remove one leg, and the stool falls down. Similarly, the

3   3 J.C. Moore, Creating Scientists: Teaching and assessing science practice for the NGSS (New York, 2017), 22. Students to Think More Like Scientists', European Journal of Physics Education, 3 (2012), 1–12.

4   J. Brown, A. Collins, and P. Duguid, 'Situated Cognition and the Culture of Learning', Educational Researcher, 18 (1989), 32.

5   J.C. Moore, Teaching science thinking: developing scientific reasoning in the classroom (New York, 2018); D. Kuhn, 'What is scientific thinking and how does it develop?', in Blackwell Handbook of Childhood Cognitive Development, ed. U. Goswami (Malden, 2014), 371–93.

absence of either component within some context results in a lack of true understanding of that context. The learner may know facts, but without the underlying context of how those facts came to be known, and the thinking required to link actions to knowing, the learner does not understand the content that they know.

For example, if we tell a small child that the stove is hot and will burn her, does that child now understand the concepts of heat and burning? They might not touch the stove because they were told not to, but they have not truly developed an understanding without also learning how the knowledge that 'stove equals danger' came into being. In this instance, we have separated the knowledge from the process of gaining the knowledge. Similarly, in the context of science, we can tell students that the mitochondria is the battery of the cell. The students can then repeat this on an examination and label it properly on a diagram. However, do those students now truly understand what the mitochondria is and does? Students of literature may be taught and therefore know that the green light in F. Scott Fitzgerald's The Great Gatsby is a symbol for the 'American dream' broadly, and the character Gatsby's hopes and dreams for the future specifically. However, do students necessarily understand literary symbols and their construction, identification, and interpretation?

Situated cognition tells us that true knowing does not happen without action. How can the learner find out what the mitochondria does? What evidence can they draw on? Specifically, what actions does the expert perform that lead to knowledge about the mitochondria? How does the learner interpret symbols? Can they do so in a new context unaided? What actions does the expert perform that lead to appropriate identification and interpretation? Fundamentally, situated cognition tells us that understanding is a verb, not a noun, as opposed to theories of knowledge as accumulated stuff in our brains.

In the USA, situated cognition as a fundamental framework for learning has been incorporated within national standards across disciplines. With respect to the sciences, the Next Generation Science Standards (NGSS) are a set of national suggestions based on the USA National Research Council's report A Framework for K-12 Science Education: Practices, Crosscutting Concepts, and Core Ideas.[6]

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6   National Research Council, A Framework for K-12 Science Education: Practices, Crosscut-

Specifically, the NGSS tightly integrates science practice, reasoning, and science content. As examples of this tight integration of content with action, I present the following excerpts from the NGSS student-performance expectations:

Students who demonstrate understanding can

1. construct an argument supported by empirical evidence to support … [content]
2. develop a model based on evidence to illustrate … [content]
3. conduct an investigation to provide evidence that … [content]

The general formula for all performance expectations within the NGSS is as follows: students who demonstrate understanding … can perform science practice … in pursuit of content. A similar pattern in seen in new standards in the USA across disciplines, as reflected in the Common Core Standards Initiative.[7]

Situated cognition says that students can only understand ideas if they understand how to practice in context. Merely 'knowing' some fact does not in itself signify understanding, no more than being able to repeat that the stove is hot signifies understanding of hotness. Students learn science by doing science. Students learn historical analysis by doing historical analysis. Students learn art by doing art. This theory of learning leads to the obvious theory of teaching: you teach students science by teaching them how to do science and then having them do it. This is what we call cognitive apprenticeship, and it is the polar opposite of teaching-by-telling.

A cognitive apprenticeship and making connections across disciplines

In a traditional apprenticeship the apprentice learns processes through physical integration into the practices associated with the content area.[8] As an example from my own past, I once trained as an electrician's apprentice before going to university. I worked side-by-side with a

ting Concepts, and Core Ideas (Washington, D.C., 2012); NGSS Lead States, 'Standards by DCI' in The Next Generation Science Standards: For States, By States (Washington, 2013).
7   National Governors Association Center for Best Practices, Common Core State Standards (Washington, D.C., 2010).
8   D. Pratt, Five perspectives on teaching in adult and higher education (Ann Arbor, MI, 1998).

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professional master electrician who showed me the trade. I learned by watching an expert, then doing electrical work under his supervision. As I gained more and more abilities, the master electrician allowed me more and more freedom to work until I was eventually practising on my own.

Cognitive apprenticeship borrows from traditional apprenticeship as an applied teaching technique for students constrained to the classroom. Research across many different disciplines has shown that simulating expert-like practice in context and in an aided environment can increase student abilities in an unaided setting.[9] For example, when we teach science in the classroom using cognitive apprenticeship as a framework, we are really doing what is called 'simulated' apprenticeship. Instead, if we get students involved in real science explorations, such as working in a research laboratory on a university campus or research centre under the direction of a professional scientist, then students are doing what Barb and Hay loosely describe as 'science at the elbows of experts'.[10]

The principal teaching methods of cognitive apprenticeship are modelling, coaching, scaffolding, reflection, articulation, and exploration.[11] For modelling, a subject expert explicitly demonstrates a task to the student. The student is able to build a conceptual model for the task. Once students have developed a conceptual model, the expert observes them attempting a task and gives them feedback and assistance at critical moments (coaching). Assistance is slowly withdrawn as students gain new abilities and can manage more of the task on their own (scaffolding). Reflection and articulation serve to internalize the student's observations and experience, as well as aid in integrating new knowledge and problem-solving abilities. Finally, exploration fosters independence and encourages autonomous problem formulations and solutions. In a proper exploration, students can set their own goals and develop their own testing strategies, all of which fosters independent learning.[12]

9   A. Ghefaili, 'Cognitive apprenticeship, technology, and the contextualization of learning environments', Journal of Educational Computing, Design, and Online Learning, 4 (2003).

10   S. Barab and K. Hay, 'Doing science at the elbows of experts: Issues related to the science apprenticeship camp', Journal of Research in Science Teaching, 38 (2001), 70–102.

11   A. Collins, J. Brown, and A. Holum, 'Cognitive Apprenticeship: Making Thinking Visible', American Educator, 6 (1991), 38–46.

12   B. Larkins, J. Moore, L. Rubbo, and L. Covington, 'Application of the cognitive apprenticeship framework to a middle school robotics camp', in SIGCSE 2013 – Proceedings of

Sense-making in the sciences: models and observations

For an example of an apprenticeship-based scaffolded learning process within the framework of situated cognition, I shall now discuss a brief activity designed to develop sense-making abilities in the sciences, in young children. In particular, I will show you an example of leading a learner through the process of building a basic mental model for light. Models are representations of the physical world that allow the scientist to understand and predict future behaviour. A mental model is a representation of physical reality within the learner's mind that assists with understanding, specifically concepts that have no obviously visible exemplars, such as light. (We can't 'see' a light ray directly!) A physical predictive model is a more sophisticated formal model that can be used to make predictions. Models in general are typically approximations of the real world and can consist of diagrams, an analogy, a mathematical equation, and/or a simulation on the computer. Students of science must learn how to develop models through observations and how to use models to make predictions. Note that the focus is on the action of developing and using models within a context, which is a necessary condition for understanding within our framework.

The representation in Figure 1a is based on the mental model called 'the ray model of light'. Built into this representation is also a physical model of light reflection that predicts how light 'rays' will reflect off mirrors. These models for light may or may not automatically align with the mental model in the student's mind. Within the framework discussed above, we want students to not only learn about the ray model, but also learn how models are developed and how to use them. Therefore, we will want to look at activities that guide students toward building a ray mental model from the ground up, where students are ultimately the creators of the model. Basically, students will create and then use the same representation shown in Figure 1a, however, they will understand not only what the picture represents, but how such representations are created in the first place. They will have learned content and practice.

the 44th ACM Technical Symposium on Computer Science Education (Denver, CO, 2013), 89–94.
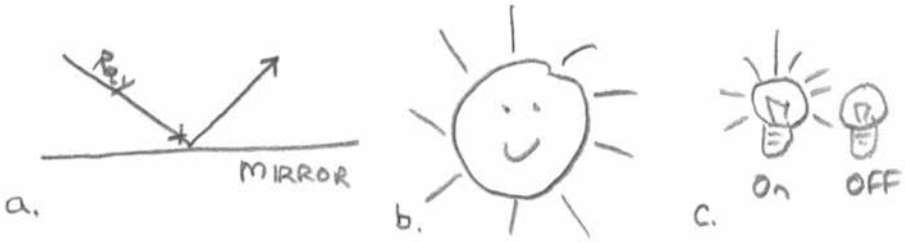
Fig. 1. (a) Representation for the ray model of light and reflection off a plane mirror; (b) a drawing of the sun consistent with drawings by primary school children; and (c) using a ray model of light to indicate in representative form that a light bulb is on

Cognitive apprenticeship has us model, coach, and scaffold instruction in expert-like practices, but we still have to answer an important question: how do we teach mental model building? We start here, because learners cannot possibly begin making sense of their world until they have first built a mental model for it.[13] Foundationally, students will build a mental model for light, often subconsciously, long before instruction, and that model may not conform to the model of the expert.[14] So there are two issues that we face: (1) dealing with the potentially erroneous model, and (2) building a new one. In Seymour Papert's constructionist learning students are guided through activities where they must construct their own mental models of the world around them, using information they already know to 'construct' new knowledge.[15] This means rather than teach-by-telling where the model is just provided, often in opposition to the well-formed model already in the student's head, we want students to build models based on their own experiences and observations.

Even students at the beginning of primary education already have a fairly sophisticated ray model that they use in their minds when thinking about light. Imagine asking a young child to draw a picture of the sun. More than likely, most of the students in the class will draw a picture similar to that shown in Figure 1b which shows a picture of the

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13   G.E. Box, 'Robustness in the strategy of scientific model building', in Robustness in Statistics, ed. R. Launer and G. Wilkinson (New York, 1979).

14   R.M.J Byrne, and P.N. Johnson-Laird, '"If" and the problems of conditional reasoning', Trends in Cognitive Sciences, 13 (2009), 282–7.

15   K. Alesandrini, and L. Larson, 'Teachers bridge to constructivism', The Clearing House, 75 (2002), 118–21.

sun produced by a primary-school student in the USA. Interestingly, I get essentially the same pictures whether I am working with a group of elementary school children, college physics majors, or in-service teachers from around the world. In constructionist pedagogy, this pre-existing mental framing of the sun will be used as a starting point for building a mental model for light.

Figure 1c shows a student-drawn picture where the ray model of light is used to pictorially represent a light bulb turned off and on. Objects that create their own light have straight lines emanating in all directions from the source. Objects that do not create their own light, or that are turned off, do not have such rays. These student-generated images serve as an excellent jumping-off point for discussing models, which provides the necessary explicit instruction and reflection. Does the sun actually look like this? Do we see individual little rays coming off of its surface? No, but light itself is impossible to draw since it isn't like regular stuff. Students have built a way to understand the world around them, and specifically an aspect of the world that has no observable exemplar. The learner is making sense of the physical world through a model, and the model is built of useful experiences they already possess.

Sense-making in the humanities: theoretical frameworks

Let us now briefly look at an example of sense-making in the humanities, specifically the theoretical framework in historical analysis. As mentioned earlier in this paper, effective history learning should go beyond simply knowing what happened in the past.[16] An understanding of history requires analysis of why events happened and the context surrounding those events. Similar to the science classroom discussed above, the history classroom should be an environment where learners develop an understanding of history by doing historical analysis in a manner consistent with the way the expert historian analyses history: a cognitive apprenticeship.[17]

16   M.T. Downey and L.S. Levstik, 'Teaching and Learning History', in Handbook of Research on Social Studies Teaching and Learning, ed. J.P. Shaver (New York, 1991), 400–10; H. Johnson, Teaching of History in Elementary and Secondary Schools, with Application to Allied Studies, rev. ed. (New York, 1940).
17   J. Brophy, 'Teaching Social Studies for Understanding and Higher-order Applications', Elementary School Journal, 90 (1990), 351–417.

Similar to the model discussed above in science, theoretical frameworks provide a perspective through which to examine a topic in history. The theoretical framework serves as a model of sorts used by the investigator to craft an argument. It can narrow the research question, and can help historians create hypotheses about the higher-order 'why' questions found in the study of history, for example. Within the practice of history, theoretical frameworks often come from other disciplines, such as economics and the social sciences. For example, students of history could examine slavery in the American south-east from a social, economic, political, or a cultural perspective.

Ultimately, the theoretical framework becomes the 'lens' through which the learner views and interpret the facts. It is one way to make sense of history. I shall not discuss specific examples of teaching history as I have with science, because the teaching of history falls outside my area of expertise. However, there is significant documented research in the area of history education where an approach to teaching for understanding founded on situated cognition and cognitive apprenticeship is beginning to show promise.[18]

Summary: the commonalities between making sense of light and history

There are significant parallels between how students best learn how to make sense of and understand light and history. This paper has discussed the construction of models and frameworks that serve as 'lenses' through which the learner makes sense of the world. In the case of light, students can build a model in their mind that serves as a representation of light, which can be used to make prediction about future behaviour and provide understanding about something not explicitly visible to the naked eye. In the case of historical analysis, the theoretical framework similarly serves as a model in the mind of the learner, which can be used

18   L.S. Levstik, 'Building a Sense of History in a First-grade Class' in Advances in Research on Teaching, Vol. 4, Case Studies of Teaching and Learning in Social Studies, ed. J. Brophy (Greenwich, 1993), 1–31; L. Darling-Hammond, 'The Social Studies Near Century's End: Reconsidering Patterns of Curriculum and Instruction', Review of Research in Education, 20 (1994), 223–54; S.S. Wineburg, 'Probing the Depths of Students' Historical Knowledge', Perspectives: American Historical Association Newsletter, 30 (1992), 18–24.

to make sense of historical events. Note that both the ray model and the theoretical framework are but one means each of discovering our world, offering a singular perspective. As students progress in science, they begin to learn other models for light, such as a wave model, and build more and more sophisticated ways of knowing. Similarly, the economic perspective in historical analysis provides one way to 'see' an event, with many more possible views available. Furthermore, as students progress in their learning, they build a more and more sophisticated understanding of history by recognizing patterns.

The main point of this paper is that there is commonality across the disciplines with respect to sense-making. Situated cognition as a theory of learning is not domain specific. Once you accept that knowing is only one aspect of understanding, then cognitive apprenticeship can become your preferred tool for preparing students to make sense of their world for themselves. The parallels between learning science and learning history, or art, or language are apparent when one steps back to see them. And recognizing these parallels is the learner's first step towards developing a systematic and consistent epistemology that they can use in their own sense-making. Because of this, we should begin addressing in our classrooms the cross-cutting nature of the practices of all learners, so that students can see how what they are doing when analyzing history is not epistemologically dissimilar to their physics class.

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Maltese Primary Classrooms – Uncharted Territory. A Blueprint for Classroom Observation

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Abstract: Maltese primary classrooms are by and large uncharted territory. Very few Maltese researchers have taken the plunge to enter into primary classrooms, observe, and analyse the teaching that occurs there. Assuming that this lacuna is not due to a lack of interest in the subject matter, but rather to the methodological challenges such studies involve, this paper proposes a tried and tested framework for pedagology – the study of pedagogy. This framework was developed by Robin Alexander for his seminal study *Culture and Pedagogy*. It seeks to analyse: i) The *form* of the lesson; ii) The *frame* of lesson through the analysis of space, pupil organization, time, curriculum, routine, rule, and ritual; and iii) The *act* of the lesson through the analysis of tasks and activities given together with that of interactions and judgements made. Each component of this model is explained in some detail and ways how data can be presented is proposed.

Keywords: pedagogy, Malta, primary education, teaching

Researching pedagogy is not an easy task. This may be one of the reasons why there are not many published studies on pedagogy in Maltese classrooms. But what is certain is that, as a result, we know very little on what goes on in our primary classrooms. One could claim that, by and large, they are uncharted territory.

The aim of this paper is to present a tried and tested framework for pedagology – the study of pedagogy – and thus give a contribution in the filling of this lacuna.

The need to stipulate

The first necessity for any pedagologist is a clear and articulate understanding of pedagogy. Since the translation to English of Freire's seminal book *Pedagogy of the Oppressed* in 1970, the use of the term *pedagogy* has spiralled exponentially.[1] However, its definition is still very much contested. This renders the work of pedagologists more complicated. One could argue that defining pedagogy is similar to catching lightning in a bottle. It thus requires us to be stipulative.

There is a whole spectrum of definitions and views of pedagogy. The study conducted by Thiessen *et al.* on the use of *pedagogy* in academic literature from 2008 to September 2012 shows a myriad of definitions.

Some pedagogies seem related to, or derived from critical pedagogy… Some are connected to particular processes or qualities…or to causes and concerns… Still others are associated with particular groups in society… And others sometimes use the terms *teaching* and *instruction* as a synonym for pedagogy.[2]

Moreover, referring mainly to Freire and Bruner, Leach and Moon notice that 'those who talk and write most deeply about pedagogy also tend to avoid neat formulations summed up in a tidy phraseology'.[3] But, of course, some did put forward their definition.[4]

I prefer Alexander's definition of pedagogy. He distinguishes teaching from pedagogy: 'Teaching is an act while pedagogy is both act and discourse.' Elsewhere he is more specific and identifies discourse as 'the *ideas*, *values*, and collective *histories* which inform, shape, and explain *the act*'.[5] For him, even if these two are distinguishable, they are nonetheless 'inseparable' and 'interdependent'.[6]

1   P. Freire, *Pedagogy of the Oppressed* (New York, 1970)
2   Thiessen *et al.,* 'Perspectives on Pedagogy', *Curriculum Inquiry*, 43(1) (2013), 2–3.
3   J. Leach and B. Moon, *The Power of Pedagogy,* (London, 2008), 6.
4   P. Murphy, 'Defining Pedagogy' in P. Murphy and C.V. Gipps (eds.), *Equity in the Classroom: Towards Effective Pedagogy for Girls and Boys* (Paris, 1996); C. Watkins and P. Mortimore, 'Pedagogy: What do we know?' in P. Mortimore (ed.), *Understanding pedagogy and its impact on learning* (London, 1999); R.J. Alexander, 'Still no pedagogy? Principle, pragmatism and compliance in primary education', *Cambridge Journal of Education,* 34(1), (2004), 7–33; D. Hamilton, 'Blurred in translation: Reflections on pedagogy in public education', *Pedagogy, Culture & Society,* 17(1), (2009), 5–16; Thiessen *et al.* (2013).
5   R.J. Alexander, 'Culture, dialogue and learning: Notes on an emerging pedagogy', Keynote address, International Association for Cognitive Education and Psychology Conference, University of Durham (UK), 12 July 2005.
6   Id., 'Border Crossings: Towards a comparative pedagogy, *Comparative Education*, 37(4), (2001).

The reason for this preference is twofold. Firstly his definition of pedagogy has been adopted by a number of high-profile scholars.[7] Secondly, it underlines the link between the *act* of teaching to the *discourse* informing it. It therefore promotes the analysis of the act of teaching by superimposing it on the ideas, values, and collective histories which not only inform and shape it but also explain it. In other words it guides us in our analysis of teaching by studying it through a socio-historical lens.

This is a crucial point for pedagology. Teaching, as any other human activity, cannot be studied in a vacuum, on its own. Even though classrooms are micro-cultures, marked with their own languages, ethos, and rule expectations, they are microcosms as well. The cultural baggage of teachers and their students is not left by the school gate or classroom door. In the classroom, culture and teaching (and learning) do not merely meet but become intertwined to such an extent that they become one: pedagogy. It is for this reason that, if we really want to acquire a deep understanding of the act of teaching we are observing, we need to view it with a cultural lens.

Of course, similarly to pedagogy, there is a whole spectrum of definitions for culture. So we need to be stipulative here as well. My understanding of culture is that it is 'a system of *inherited* conceptions expressed in symbolic forms by means of which men (sic) communicate, perpetuate, and develop their knowledge about and attitude about life'.[8] In my *Malta+5* study, I sought to gather insights on the act of teaching through a historical lens.[9] But it can also be studied through the help of other lenses, like that of sociology.

Thus pedagology requires researchers to triangulate 'between' and 'within' methods, as explained by McFee.[10] We need to gather and record data from the field through observation notes, audio and/or video recordings, photographs, and interviews. But we also need to study education policies and curricula issued along the years and, depending

7   R. Dale, 'Pedagogy and cultural convergence' in H. Daniels, H. Lauder, and J. Porter (eds.), *Educational Theories, Cultures and Learning: A critical perspective* (New York, 2009), 27–38; A. Pollard, *Professionalism and pedagogy: A contemporary opportunity* (London, 2010).

8   C.J. Geertz, *The interpretation of Cultures: Selected essays* (New York, 1973), 89.

9   R. Peresso, 'Pedagogies in Primary Schooling', unpublished MA thesis (2013) https://www.academia.edu/11821959/Pedagogies_in_Primary_Schooling_An_International_Comparative_Study

10   G. McFee, 'Triangulation in Research: Two Confusions, *Education Research*, 34(3), (1992).

on the particular cultural lens one uses, any other pertinent documents and studies to inform and aid our analysis of the act of teaching.

A framework for studying teaching

The framework I am going to present is the one developed by Alexander for his *Five Cultures* study.[11] It is the culmination of Alexander's rich experience in observing lessons and in conducting research projects.[12] I am presenting this framework because it has received extremely good reviews by academics from all over the western world, but also because it is a framework I am very familiar with as I have adopted it for my own study in local classrooms.

The adoption of this model proved to be very helpful during classroom observations and analysis. It served the function of a railway track, in that it helped me stay on course, without wandering too far, and to remain focused on the objective of my research project, which was to gain insights into the pedagogical culture of primary teachers in Maltese state schools.

Taking the lead from Edmund Leach, Alexander's framework 'reduce[s] teaching to its barest essentials'.[13] It does it by first identifying two universal propositions of teaching and then expanding them further.

Universal proposition 1
• Teaching, in any setting, is the act of using method x to enable pupils to learn y.[14]

But 'method' needs to be further analysed into categories. So Alexander suggests that a teaching method combines '*tasks, activities, interactions*, and *judgements*'.[15] Moreover, the act of teaching inevitably needs a *frame* and *form*.[16]

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11   R.J. Alexander, *Culture and Pedagogy: International Comparisons in Primary Education* (Oxford, 2001).
12   A. Little, 'Book symposium – Culture and Pedagogy: international comparisons in primary education, *Comparative Education*, 36(3), (2003).
13   E. Leach, 'Models', *New Society* (June 1964); Alexander, *Culture and Pedagogy*, 323.
14   Ibid.
15   Ibid., 324.
16   Ibid.

Universal proposition 2

• Teaching has structure and form; it is situated in and governed by space, time and patterns of pupil organisation; and it is undertaken for a purpose.[17] This framework is depicted in the table below. It shows the connections between the frame, the form, and the act of teaching as identified by Alexander.

Frame	Form	Act
Space		Task
Pupil organization		Activity
Time	Lesson	
Curriculum		Interaction
Routine, rule, and ritual		Judgement

Table 1. A generic model for the analysis of teaching[18]

After this general overview of the framework, we now delve into each item in greater detail.

Space and pupil organization

Space or classroom ambience is important for pedagology because it reveals a lot in terms of the 'character and atmosphere of a place'. This can be studied through the consideration of pupils' tables and chairs, whiteboard, and textbooks – paraphernalia that can be found in every classroom. An analysis of how they are used sheds light on the norms, values, beliefs, and ideology underpinning the act of teaching.

For instance, students' seating arranged in rows or u-shaped is an indication of a pedagogy governed by a collective ideology, while group work seating or a classroom arranged in learning stations evidences a more individualistic ideology. Pedagologists should look deeper though, as incongruence between seating arrangement and the ideology underpinning teaching taking place inside that classroom is not uncommon.[19]

17   Ibid.
18   Ibid., 325.
19   M. Galton *et al., Inside the Primary Classroom: 20 Years On* (London, 1999); Alexander,

Lesson structure

A lesson can have three parts: introduction, development, and conclusion. Yet, while most have an introduction and development, not all have a conclusion.[20]

Lesson introductions can be *procedural* (involving a sequence of technical detail), *instructional* (involving teaching), or a mixture of both. The same applies to conclusions though, in this case, when instructional they are very often *recapitulatory* in nature.

The central part of the lesson, on the other hand, can be either *unitary* or *episodic*. It is unitary when it involves a single task. In this case it can be either *closed* – 'when the learning task must be completed before the lesson can move to its next or final stage' – or *open-ended* – when 'the next stage can start whenever the teacher feels it is appropriate to do so'.[21] When episodic, it involves a sequence of several tasks. These can be either *self-contained*, so 'the lesson … [can be] halted at any time, to be resumed the following day or week', or *linked*.[22] While both self-contained and linked tasks can be *cumulative*, the former can also be *reiterative*, while the latter can also be *developmental*.[23]

A bird's-eye-view of classrooms and lessons is important and insightful. But, if we want to really understand pedagogy, we need to closer at the parts of which the lesson is made of. We can start by discussing the analysis the tasks given.

Tasks

Building on the work of Bennet *et al.* on learning, tasks can be classified as done with intention of *accretion*, *restructuring*, *enrichment*, *practice*, and *revision* of knowledge.[24] In essence, this typology makes a distinction between *propositional* (knowing that) and *procedural* (knowing how) knowledge.

    Culture and Pedagogy; Peresso.
20   Alexander, *Culture and Pedagogy*; Peresso.
21   Alexander, *Culture and Pedagogy*, 304.
22   Ibid., 300- 1.
23   Ibid.
24   S.N. Bennet *et al.*, *The Quality of Pupil Learning Experiences* (Hove, 1984).

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Patricia Alexander *et al.*, on the other hand, discerned the difference between *procedural*, *conceptual*, and *metacognitive* knowledge[25] where procedural is seen as a catch-all for both the acquisition of information and understanding of how such information can be used. On the other hand, understanding of conceptual knowledge is seen as the knowledge of ideas and of principles of definition and classification. Metacognitive knowledge is defined as the knowledge of one's own cognitive process.

Finally Edwards and Mercer distinguish between *principled* and *ritual* knowledge.[26] In specific terms the teaching and learning of rules, formulae, and patterns is *ritual* when students are only taught how to apply them, while it is *principled* when a deeper understanding of the underlying principles is sought. It is important to note, however, that although these two levels of understanding are distinct – ritual leads to replication, principled to understanding and application. It is important to stress that they are not necessarily mutually exclusive. On the contrary, they can be complementary, as the former can lead to the latter.

Indeed, the empirical data gathered in *Malta+5* shows that most teachers aim to lead their pupils to a principled understanding of the concepts covered in class. The differences lie in the methods by which teachers seek to achieve such understanding. Maltese teachers seek to attain it by building on a solid base of ritual understanding, but others, like the English and Michigan teachers studied by Alexander evidently start working immediately on the attainment of principled understanding.[27]

Activities

But tasks need to be accompanied by activities:

… the learning activity is the task's practical counterpart, or the means through which the teacher intends the child to make the required conceptual advance from what was learned previously to what must be learned now.[28]

25   P. Alexander *et al.*, 'Coming to terms: how researchers in learning and literacy talk about knowledge, *Review of Educational Research*, 61(3) (1991).
26   D. Edwards and N. Mercer, *Common knowledge: the development of understanding in the classroom* (London, 1987).
27   Alexander, *Culture and Pedagogy.*
28   Ibid., 351.

In *Malta+5* there were various activities which the Maltese teachers required their pupils to do. The most common were: answering questions, listening/looking, talking to the class, working from the interactive whiteboard, working from a textbook, writing on the interactive whiteboard, and writing at their desk. Then there were less common activities: drawing/painting, playing games, reading to the class, using task-specific apparatus, and working from worksheets. Finally there were activities whose frequency of observation was very low: moving for task purposes, self- and peer-assessment, collaborating in pairs, or in groups, talking as class/chanting, talking to their teacher.

Judgements

Two important judgements made by teachers are with regard to two notions that, although distinct from each other, are also closely interrelated: differentiation and assessment.

Differentiation is the process of identifying differences in children as a basis for making decisions about where, what and how they should be taught. Assessment carries on from where differentiation leaves off: it judges how and what children have learned. However, there is also a feedback loop from assessment because it also provides the evidential basis for differentiation.[29]

Starting from differentiation, there are five criteria on which it can take place in class: *age*, *ability*, *special needs*, *behaviour*, and *gender*. Certain aspects of these criteria are determined by policy-makers. However, teachers are not mere automatons and, unless operating in a very strict centralized system, are generally free to apply policies according to their own ideology, values and practical constraints.

There are then six forms and contexts of differentiation which need to be studied. Pupils can be differentiated by subject – through either setting or streaming. They can be also differentiated by *task*, *activity*, *seating or grouping*, *time and attention*, or by *outcome*. Most of these forms and contexts can be further divided into sub-groupings, as indicated in the figure below.

29   Ibid., 356.

Assessment

As already indicated, assessment feeds differentiation but is also a distinct judgement every teacher makes. When it comes to assessment during lessons, teachers have to decide on three main notions: *form, agency*, and *criteria*.

Assessment can take the form of oral or written. The former can be either public or private, while the latter is generally private. It can be carried out by the teacher, the pupil herself (self-assessment), or other pupils (peer assessment). While with regards to criteria, it can be somewhere on a continuum of a strongly cognitive emphasis at one end and a strongly affective/social emphasis at the other hand, and on a continuum of convergence/precision versus divergence/creativity.

Routines, rules, and rituals

It has already been underlined that classes are a window on the society they are situated in. But it has also been stressed they are also micro-cultures in their own right. As such, *routines* develop, which the pupils and their teacher get accustomed to. *Rules* are established, as well as *rituals* through which teachers and teaching convey messages and values.

A *routine* is a procedure that becomes custom through habit and use. A *rule* is an order which can be imposed by the leader, in this case the teacher, or can be established after an exercise of wider consultation and possibly consensus, but a rule must always be obeyed. If it is not, sanctions will be invoked. A *ritual*, on the other hand, signifies a prescribed and established ceremony. These three are distinct from each other but can also be intertwined. For instance, once rules are accepted and adhered to without the need of any reminding, they verge into routines but, as soon as routines or rituals need to be enforced, they shift towards being rules again. Moreover, when rules are soft, they also verge on routines. Furthermore, for rituals and routines to be established, rules have to be invoked. That is why it is suggested that these three notions be tackled together.

For a thorough study of rules, rituals, and routines (RRRs), we need to differentiate between various categories. Synthesizing from his *Five*

Cultures data and the research done by Wragg, Alexander identifies five categories.[30] They are: temporal, procedural, behavioural, interactive, linguistic, and curricular.

Temporal RRRs deal with time in terms of class timetables, the structure of the school year, week, and day and the temporal structure of lessons. *Procedural* RRRs deal mainly with how children should conduct themselves in relation to classroom space, equipment, and materials and to the tasks and activities set. *Behavioural* RRRs are concerned with pupils' conduct. *Interactive* RRRs are mainly concerned with turn taking. *Linguistic* RRRs govern the content of classroom interaction, as opposed to its social dynamics. *Curricular* RRRs set the conceptual boundaries and requirements for the subjects taught and learned.

Interactions

The analysis of the three Rs involves studying the manner they are manifested through teacher-pupil interactions. But there is more to analyse and consider when studying interactions that occur in the classroom. We can study *interaction participants, utterance length, interaction mode*, and *interaction and lesson stage.* We will tackle each one of them in some detail. But it is important to note beforehand that, while the study of the parts of the lesson discussed so far involved the employment of a qualitative methodology, the study of interactions requires the researcher painstakingly to count and time the various types of interactions. Thus a more quantitative approach is required.

Generally speaking, in the classroom, teachers and pupils are the only possible *interaction participants.* However, the presence of a teacher and a number of pupils allows a number of different combinations. We can divide them into two main groups: those involving the teacher and pupils and those between pupils only. The former can be divided into three further categories: teacher and class (T–C); teacher and group (T–G); and teacher and individual (T–I). Those between pupils can also be divided into three categories on similar lines: individual and class (I–C); individual and group (I–G); and individual and another individual (I–I). The table below is one way how the data of interaction participants can be presented. Each box can be filled by using a frequency scale of 0 to 5.

30   E.C. Wragg, *Primary Teaching Skills* (London, 1993); Alexander, *Culture and Pedagogy.*

	Interactions involving both teachers and pupils			Interactions involving pupils only		
	T-C	T-G	T-I	I-C	I-G	I-I
Class 1						
Class 2						
Class 3						

Table 2 Balance of interactions in primary school lessons

5 = most of the interactions observed
4 = around two-thirds to three-quarters of the interactions observed
3 = about half of the interaction observed
2 = around one quarter or one-third of the interactions observed
1 = a small proportion of the interactions observed
0 = no such interactions observed

It is important to underline that in *Malta+5* T-C interactions represented the teacher's direct instruction to the whole class and also to individual pupils within the context of whole-class teaching. This decision was taken because, whenever the latter occurred, the interaction was always public and teachers expected the other pupils to listen attentively to what was being said. T-I interactions, on the other hand, represent interactions with individuals in the context of either monitoring or extended individual attention.

Utterance length – the length of time a person speaks before he stops or is interrupted – can be presented in the table below.

	Utterance length in seconds				
	Teachers		Pupils		
	Range	Mean	Range	Mean	
Class 1					
Class 2					
Class 2					

Table 3 Teacher and pupil utterance length

There are four main types of *interaction modes* one can expect to find in a classroom. These are: *instruction*, *monitoring*, *routine*, and

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discipline. The frequency of every mode can be presented in a table like the one underneath. Data can be presented on a frequency scale, say 0–4.

	Instruction	Monitoring	Routine	Discipline	Other
Class 1					
Class 2					
Class 2					

Table 4. Balance of teachers' different interaction purposes in primary classrooms

Very often the nature of interaction changes as the lesson progresses from start to finish. It is therefore very pertinent to analyse *interactions and lesson stage*. Each lesson should be divided into the different stages that make the whole and then it should be analysed in detail on every dimension outlined above.

Lesson stage	1	2	3	4	5	6	Average
Interaction							
	T–C						
	T–G						
	T–I						
	I–C						
	I–G/I						
	I–T						
Teacher-interaction	Task						
	Routine						
	Discipline						
	Admin						
	Other						

Table 5. The changing pattern of interaction during a lesson

Time

There are four main notions related to time which we can focus on. These are: *lesson length, time on task,* and *pace*.

The analysis of *lesson length* can include answering important questions such as: Who determines it? Does lesson length differ by subject and/or topic? Why does this happen?

The inclusion of *time on task* is important for an investigation on time in the classroom as Bennet's study showed that 'the relationship between time and learning is strong and consistent'.[31] One needs to look deeper however, as the relationship between learning and time is not a simple causal one. As Wragg indicates, we need to consider 'time assigned to a subject', 'time actually spent on task', 'time spent on a worthwhile task', and 'time spent on task with some degree of success'.[32] We therefore need to look deep into how pupils spend their time in class.

Finally, we can study *pace*. This we can do by considering the following aspects:

- Organizational pace – the speed at which lesson preparations, introductions, transitions, and conclusions are handled.
- Task pace – The speed at which learning tasks and their contingent activities are undertaken.
- Interactive pace – the pace of teacher-pupil and pupil-pupil exchanges, and contingent factors such as maintaining focus and the handling of cues and turns.
- Cognitive or semantic pace – the speed at which conceptual ground is covered in classroom interaction or the ratio of new material to old and of task demand to task outcome.
- Learning pace – how fast pupils actually learn.[33]

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31   S.N. Bennett, 'Managing time', in C. Desforges (ed.), *An Introduction to Teaching* (Oxford, 1995), 279.
32   Wragg, 25.
33   R.J. Alexander, Culture and Pedagogy, 424.

Conclusion

This framework has enabled me to gather insights and shed light on pedagogy in Maltese primary schools. There is not enough space, nor is it the scope of this paper to outline the findings of my *Malta+5* study. However, if I were to condense it in one sentence I would say that it is predominantly teacher-centred, is solidly underpinned by segmented-collectivism, and is one that encourages uniformity at all levels. But it is not complete, nor could it ever be. To use an Indian tale, I sought to feel as many parts of the elephant as I possibly could, but the elephant is truly enormous. No blind man alone can ever describe it fully. However, the combined effort of a sufficient number of blind persons can give us a much clearer picture.

It is therefore hoped that more academics bite the methodological bullet and study pedagogy in Maltese primary schools. As, if we are to improve teaching (and learning) we must first have a clear understanding of the values, historic continuities and ideology underpinning contemporary practice. Only then will we be in a position to come up with effective and sustainable policies and strategies that enable us to give our pupils a more meaningful education, one that is indeed relevant to the realities of the century we are living in.

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The Role of Translators as Cultural Mediators and its Implications in the Training of Prospective Maltese Translators

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Abstract: The last decades have seen a significant change in the perception of the role of translators. The increased complexity of communication networks brought about by globalization and the exponential increase in the use of the internet have resulted in a stronger awareness of cultural differences that may hinder effective communication. Since the cultural turn in Translation Studies of the 1990s, cultural mediation (as defined by Stephen Bochner in his *The Mediating Person: Bridges between Cultures*, 1981) has become the major focus of attention in the analysis of the relationship between source and target texts. Translation is nowadays considered much more than the practice of linguistic transposition. The translator is not just a linguist who knows more than one language, but a specialist in both the source and the target culture, a bi-cultural expert whose task it is to translate both the written and the non-written. On their part, translation-training courses often tend to overlook the cultural aspect of translation, taking the students' competence in both cultures as a given, in order to focus on translation strategies and linguistic correspondence. The paper aims to investigate the role of the translator as a mediator and the importance of cultural awareness, with specific reference to the training of prospective Maltese translators. It will discuss effective cultural competence and students' self-evaluation, attitudes towards highly culturally specific texts, research issues, and the translation strategies required to bridge the cultural gap between texts. It also suggests ways how to include cultural awareness in translation training programmes to ensure that future translators are not only aware of the importance of their role as cultural mediators but also well-equipped to take on

such a responsibility. The issues discussed and the examples provided are based on the author's experience as a translator trainer responsible for the Italian-Maltese practical translation course at the University of Malta.

Keywords: Translation, culture, mediation, communication, pedagogy.

Thence last thirty years have seen a significant change in the perception of the importance of translation and the role of translators. Translation has come to be seen as a much more complex task than the transfer of words from one language to another. Following the cultural turn in Translation Studies in the 1990s, prompted by the work of scholars such as Lefevere and Bassnett,[1] the focus of the discipline has moved from linguistic transposition to cultural transference. Until then, translation was categorized as a sub-discipline of Applied Linguistics,[2] whereas literary translations were considered a marginal issue in the realm of Comparative Literature. The challenges posed by the cultural characteristics of texts became a crucial element in translation practice and a new awareness emerged of the need to understand the deeper issues in translation by engaging with other disciplines such as Cultural Studies and Intercultural Communication. Moreover, the translator began to be considered not only as a bilingual linguist but also as a cultural mediator, according to Bochmer's definition of a mediating person as 'an individual who serves as a link between two or more cultures and social systems'.[3] Such a shift in focus was a watershed in the development of Translation Studies as a discipline. However, the changing role of the translator has still not yet been fully accepted both within and outside the profession. Work providers and translators alike still tend to regard translation as a quasi-mechanical task of linguistic transfer. This paper seeks to discuss how translation students can be made aware of the importance of their role as cultural mediators and appreciate the responsibilities their profession entails.

The dramatic technological progress in long-distance communication that has taken place since the invention of the personal computer and

1   S. Bassnett and A. Lefevere, *Constructing Cultures. Essays on Literary Translation* (Clevedon–Philadelphia, 1998).
2   J.C. Catford, *A Linguistic Theory of Translation* (Oxford, 1965).
3   S. Bochmer, (ed.) *The Mediating Person. Bridges Between Cultures* (Boston, 1981), 3.

the internet has brought different cultures into contact much more than ever before in history. On a socio-economic level, it facilitated globalization by enabling investors and producers to communicate rapidly and directly with counterparts and clients in different parts of the world, thus facilitating access to foreign markets. Eventually, multinational enterprises became aware that, in order to be successful at a global level, their products had to be tailored to the specific needs of different markets and presented to end users according to the latter's particular worldview, hence the need for localization. Such changes resulted not only in a surge in translation and the consequent expansion of the industry, but also in the need to cater for cultural differences in order to achieve the required results in different socio-cultural contexts. Stakeholders have increasingly become aware that translation is not just about words but involves translating worldviews in order to convey both message and effect. It is not just required for what is said (or written), but also for what is unsaid. This is why the view that translators can be replaced by artificial intelligence is proving to be a misconception, despite the lingering popular opinion to the contrary and the progress of translation technology. Research on the evolution of the translation industry shows that job opportunities in languages nowadays require cultural mediation in the form of localization for products and services.[4] However, translators themselves are seldom aware of the situation, and continue to perceive their profession in a traditional way. As Katan rightly observed, 'they need to move away from being seen as photocopiers and working as human dictionaries to be perceived as visible agents in creating understanding between people'.[5]

In my experience as a translator trainer at the University of Malta, the vast majority of translation students perceive translation merely as a linguistic task and require gradual guidance to achieve awareness of the cultural competence involved in the profession. It takes time for them to understand that they have to focus on the message relayed to the end user rather than on the text itself. This may be explained by their inexperience which makes them feel safer to concentrate on the lexical level of the

4   D. Gouadec, *Translation as a Profession* (Amsterdam–Philadelphia, 2010), 39.
5   D. Katan, *Translating Cultures. An Introduction for Translators, Interpreters and Mediators* (London–New York, 2004), 3.

text. Moreover, students who enrol in the post-graduate diploma course in Translation Studies have varying levels of language competence in their two source languages (English and a foreign language of choice). The majority of those who choose Italian are usually graduates from the BA programme in Italian. However, some BA graduates in Maltese who also possess an Advanced or Intermediate level qualification in Italian also choose this option. A third group consists of students who only studied Maltese and English as languages at post-secondary level and find themselves compelled to choose Italian since it is the only other language to which they ever had some kind of exposure. In this case, the students would have obtained a SEC (Ordinary) level qualification in Italian, or even have no formal qualification in the language at all.

Groups with such varying levels of language competence present a considerable challenge to the translator trainer. It must be noted, however, that formal qualifications in the language do not provide an accurate reflection of the students' knowledge of a particular culture. There are other more decisive factors, such as personal experience through family relations or independent travel, exposure to a foreign country's mass media, and general interest in languages and current affairs. Students who have spent time in a foreign country, interacting with the locals and living their way of life, are much more likely to develop an interest in the culture than those who have never visited the country. They also tend to have a better idiomatic competence in the foreign language and are generally more eager to learn about the cultural and linguistic characteristics of the country. More importantly, they tend to develop a more open attitude towards other cultures, which puts them in a better position to appreciate cultural diversity and to accept cultural mediation as an integral part of their future role as translators.

On the other hand, students who have never had any direct interaction with the foreign culture corresponding to their language of choice, apart from basic notions learnt at school, tend to be less keen in deepening their cultural competence. In my experience, they are usually surprised when challenged by cultural differences between the source and target culture and most become painfully aware of their limitations in identifying cultural characteristics reflected in language that are so important in translation. In extreme cases, some students are reluctant

to leave their comfort zone and prefer to find refuge in superficial impressions and prejudice. In these cases, they try to avoid facing the challenge and try to get away with literal translation.

Such attitudes are reflected in the common translation strategies adopted by students to compensate for cultural mismatch. The following are a few examples of sentences my students had to translate and which gave rise to discussions on cultural awareness and how to tackle culture-specific occurrences in the source text:

1. *Va a Milano e Palermo* la **maglia nera** *della sicurezza stradale.*
2. *È **fumata bianca** tra avvocati e Procura della Repubblica dopo un vertice ai massimi livelli* […].
3. *Disastro referendum/ Una **Caporetto** sindacale senza appello.*
4. *Ladro scambia i carabinieri per corteggiatori della moglie che **faceva il '**palo'.*
5. *Beppe Grillo sembra un **sessantottino**.*

The decisions taken by the students to solve the above translation problems broadly correspond to the levels of competence and the attitudes described above. Admittedly, the expressions presented varying degrees of difficulty. However, it was observed that students who had a greater exposure to Italian, although not necessarily the highest formal qualifications, performed better than their peers. In general, they found '*maglia nera*' and '*fumata bianca*' the easiest to translate, whereas '*Caporetto*' and '*sessantottino*' were found most difficult. These results are hardly surprising, since the first two expressions are often used in TV news programmes. Exposure to Italian current affairs and some basic knowledge of Italian history allow translators to identify more easily the presence of metaphors and allusions in texts that contain figurative language.

A number of students who translated at least some of the above expressions correctly did not know their meaning beforehand. Their cultural awareness was enough for them to suspect that they had to dig deeper to find the meaning of the sentence, starting from the overall context and then carrying out research to find the best solution. When asked to describe the translation process they undertook, these students mentioned that, once they identified the presence of an expression, they re-read the paragraph and narrowed down the expression's possible

meanings accordingly. They then googled the expression on the internet and identified its meaning and its corresponding nuances. Such students consider similar challenges as an opportunity to enrich their cultural competence and refine their translation skills. They find their work rewarding and appreciate their role as cultural mediators.

On the other hand, the students with a lower level of exposure, some of whom in possession of higher academic qualifications in Italian, tended to avoid facing the challenges posed by instances of cultural specificity. Some chose meaningless literal translations such as '*flokk l-iswed*' for '*maglia nera*', '*daħna bajda*' for '*fumata bianca*', and '*arblu*' for '*palo*'. They also tended to leave '*Caporetto*' untranslated. Such an attitude does not only show inexperience and a lack of appreciation of what translation effectively entails, of the ethical responsibility of the translator, and of adequate cultural competence; it also shows a lack of interest in cultures other than one's own, where the specific characteristics of a foreign culture that challenge one's own self-perception from the perspective of the target culture are effectively ignored. Students who adopt this attitude become aware of their cultural limitations, but react to them in different ways. Some strive to make up for their shortcomings and try to find means to deepen their knowledge of the target culture, but others simply limit themselves to take note of the 'correct' translation and move on. Needless to say, the latter's prospects of becoming successful general translators and cultural mediators tend to be very limited, although they could perform adequately when translating specialized non-figurative texts such as EU-related documents that are repetitive and culturally non-specific.

In the scenario described above, it was deemed necessary to integrate Italian to Maltese translation training with deepening awareness both of the importance of the source culture and of the translator's role as a cultural mediator. Unfortunately, the study unit devoted to the second target language is limited to 4 ECTS, corresponding to just 28 hours of teaching time. The two-semester-long diploma course does not allow further time for honing students' cultural awareness in the second target language. Such a process takes time, because a shift in focus that requires reflection and readiness to open oneself to a different worldview is not easy to achieve.

In 2015, the last time I taught the course before going on sabbatical leave, I tried an experiment to gauge my students' level of cultural competence and see their reaction after self-evaluating their cultural awareness. I devoted the first lecture of the study unit to an overview of Italian history from the beginning of the twentieth century to the present, with particular reference to key moments that have remained present in Italian cultural discourse until today. In particular, I focused on the following:

1. Liberal Italy and the colonization of Libya, both countries being close neighbours of Malta but whose historical relationship is often ignored by the Maltese.
2. The Fascist period ('*il ventennio*').
3. The economic post-war boom.
4. Party politics and the 1968 protests.
5. Terrorism and the economic crisis of the 1970s and 1980s.
6. Berlusconism and contemporary Italy.

Inevitably, it was only possible to provide a cursory glance on these highly complicated periods in the history of Italy and much was left out owing to time constraints. Thanks to a selection of brief videos found on YouTube, I was also able to provide visual information with which the students could engage. Time restrictions compelled me to focus on certain aspects of these historical eras; for every period I included a set of expressions used in contemporary Italian alluding to historical figures, events, rhetoric, and expressions still in common use (e.g. the famous Fascist-era expression '*adunata oceanica*' to describe a huge crowd, today generally used with a negative connotation). The pace of the lecture was inevitably very fast, but my objective was not to provide factual information. It was rather an attempt to make the students aware of what they knew, of what they thought they knew, and of what they did not know about Italy and Italian popular culture.

The feedback obtained from the students was very positive. A student with a keen interest in political affairs who also worked as a part-time journalist remarked that he had realized how little he knew about Italy's history and the impact of past events on the country's current socio-cultural situation. Other students later told me they carried out further research on the internet about particular topics I had mentioned only

fleetingly. For the following lectures, I chose texts that contained an increasing amount of culture-specific elements, both in language and in content, in order to reinforce the cultural awareness of the students who accepted the challenge and undertook a journey of cultural discovery that at the end of the study unit gave them a very different picture of the Italy they had thought they knew quite well.

The second step of cultural awareness related to translation is mediation. Once a translator becomes aware of the cultural differences between source and target culture, s/he will have to find ways how to bridge the cultural gap both conceptually and linguistically. How is one to render a concept or an expression that is absent from the target culture and its language? There is no straightforward solution to this problem but various strategies have been identified by scholars in recent decades.[6] Students are taught how to use these strategies, but lack of experience often leads them to seek linguistic solutions that do not take into account the target readership. Over-translation, simplification, complication, and ambiguity are pitfalls of which students must be made aware in order for them to achieve successful cultural mediation.

This is especially the case when translating newspaper articles from Italian to Maltese, since the educational level of newspaper readers differs between both countries. In Italy, 80% of habitual readers are in possession of a university degree.[7] On the other hand, Maltese-language newspapers, which are mostly mouthpieces of political parties or other institutions, serve a readership that generally has a lower level of education in a country that has one of the lowest percentages of adults in tertiary education and also the highest percentage of school-leavers in the EU.[8] Translation students have to be aware that processes of simplification or explicitation may be necessary when translating for a Maltese general readership and form part of the cultural mediation required of translators.

6   See M. Ordudari, 'Translation procedures, strategies and methods', *Translation Journal*, 11 (2007) http://translationjournal.net/journal/41culture.htm (accessed 27 June 2017).

7   Istat, *La lettura in Italia. Anno 2015* (Rome 2016), 3 in https://www.istat.it/it/files/2016/01/Lettura-libri_2015.pdf (accessed 27 June 2017).

8   'Malta with the lowest people in tertiary education and the highest percentage of school leavers', *The Malta Business Weekly*, 20 April 2017 in http://www.independent.com.mt/articles/2017-04-27/education/Malta-with-the-lowest-people-in-tertiary-education-and-the-highest-percentage-of-school-leavers-6736173560 (accessed 27 June 2017).

In an attempt to strengthen local translation students' cultural awareness, as from the academic year 2018–19, the Department of Translation, Terminology, and Interpreting Studies of the University of Malta shall be introducing a new compulsory study unit entitled 'Translation and Culture' which shall deal with the issue of translators as cultural mediators from a non language-specific perspective. It will aim to guide the students to make the transition from an ethnocentric to an ethnorelative perspective. They will be led to appreciate that no culture is normal when compared to others and that diversity is not a danger to be avoided but a challenge to be taken up. In translation terms, our students shall be required to pursue a change of attitude, from appropriation to interaction between cultures, in order to become better professionals, appreciate their responsibility as cultural mediators, and adapt themselves better to the multi-ethnic society they live in, both on a professional and on a personal level. In doing so, as translator trainers we shall be fulfilling our duty to prepare future professionals for the rapidly changing language industry, as well as to form citizens who see other cultures as a richness rather than a threat.

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What is a Speculative Bubble?

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Abstract: According to complexity economics, a speculative bubble is a paradigmatic case of emergence which forms from individual behaviour. In order to provide a more detailed ontological investigation of this 'lower level', this paper aims to understand what a transaction is and how people actualize their financial choices. Given that selling and buying operations may involve just machines, it is argued that collective intentionality, at least in John Searle's version, is not successful. It would seem, therefore, that the pivotal role is played by documents. The paper focuses mostly on the documents' capacity to anchor quasi-abstract entities to reality and to attribute social and economic properties, such as property having a certain value. The latter is clearly involved in the emergence of a bubble.

Keywords: social ontology, speculative bubbles, emergence, documents, collective intentionality

According to Wikipedia, a speculative bubble is 'trade in an asset at a price or price range that strongly deviates from the corresponding asset's intrinsic value',[1] and it usually occurs when, in a compressed period of time, many people decide to invest in a certain asset. Demand growth causes the boosting of prices. This fact induces new people to think that it is a very good deal and that it is profitable to invest in this asset; therefore, the price continues to rise and to deviate increasingly from the asset's intrinsic value, namely the production cost. At this point, demand starts to decrease typically for two main reasons: the asset price is now too high and it does not attract new investors, while asset-holders try to sell it in order to collect the

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1   Wikipedia <https://en.wikipedia.org/wiki/Economic_bubble>

capital gain. The consequence is a steep fall in asset price: the bubble is burst.

Undoubtedly, speculative bubbles belong to the social world. However, like other interesting social entities, such as the unemployment rate and Gross National Product, they are quite different from other social objects such as marriages, presidencies, and university degrees. The most evident difference is that, with respect to the former, one cannot say that they are constructed *directly* by human beings because the latter only detect them. At most, one may say that they are *indirectly* created by human being's activities. A very interesting consequence is that, while it is true that 'no realist would deny that VAT depends on conceptual schemes',[2] the same cannot be said about speculative bubbles. On one hand, they cannot exist regardless of us and our activities but, on the other hand, they are external to our conceptual schemes and may exist even though we ignore them. The first speculative bubble in the history, for instance, took place in The Netherlands in 1637: at that time, no one knew what a bubble was, yet it occurred anyway.

Something similar was also noticed by Jonathan Friedman. Referring to John Searle's theory about the construction of the social reality, he argues that it leaves *non-intentional properties of social life* out and he provides the example of business cycles. They 'are not institutions in practice, but they are systemic and they have crucial effects ... They are emergent properties of interaction over time.'[3]

What does 'emergent properties' mean? Broadly speaking, the concept of emergence is used to account for those circumstances in which there is an entity that arises from the interactions among parts. The latter are self-governing and their relations are not controlled by external agents. The emergent entity cannot be considered a mere sum of isolated parts but something novel and different compared to them.

Since a speculative bubble is a spontaneous process that occurs without any central intervention, and since it is supposed to be the result of people's actions, reactions, and interactions, it is rather intuitive to rely on the concept of emergence in order to offer an explanation of it. Indeed, complexity economics, a field of research in which scholars

2   M. Ferraris, *Manifesto of New Realism* (Albany, 2014), 35.
3   J. Friedman, 'Comment on Searle's 'Social Ontology': The Reality of the Imagination and the Cunning of the Non-Intentional', *Anthropological Theory*, 6 (2006), 75.

try to apply complexity science to economics, regards a speculative bubble as a paradigmatic example of emergence. According to Brian Arthur, 'these aggregate patterns form from individual behaviour, and individual behaviour in turn responds to these aggregate patterns: there is a recursive loop. It is a recursive loop that connects with complexity.'[4]

Individual behaviour constitutes the lower level; it basically consists in buying and selling, namely the actions by means of which people give concrete expression to their beliefs and preferences. What is the best way to account for trade? What happens during a transaction? Without proper answers, it is not possible to provide a reliable explanation of speculative bubbles. This paper aims exactly to investigate trade's nature and to put together a preliminary reflection about emergence, intentionality, and documents.

Intentionality

John Searle is the author of the most popular theory about social ontology. In *The Construction of Social Reality* (1995) and in *Making the Social World* (2010), he provides a fascinating explanation of the ways in which we construct institutional facts such as money, elections, and marriages.

In the first book, Searle accounts for the creation of social objects by considering three fundamental elements: the assignment of function, collective intentionality, and constitutive rules.

Humans beings, but also other animals, have the capacity to impose functions on objects. Sometimes, functions cannot be carried out simply by objects' physical properties but in virtue of the fact that individuals acknowledge those objects as having a new status. These functions are called *status functions*.

What allows the assignment of function is the *intentionality*: according to Franz Brentano, our mental states, such as beliefs and desires, have the property of being intentional, of being directed at an object. In Searle's opinion, intentionality may be individual but also collective:

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4   W.B. Arthur, *Complexity and the Economy* (New York, 2015), 3.

The crucial element in collective intentionality is a sense of doing (wanting, believing, etc.) something together, and the individual intentionality that each person has is derived from the collective intentionality that they share. Thus, to go back to the earlier example of the football game, I do indeed have a singular intention to block the defensive end, but I have that intention only as part of our collective intention to execute a pass play.[5]

The last element to consider is the *constitutive rule* which has the following form: *X counts as Y in C*, a physical object counts as a social object in a certain context.

In order to explain how these three elements work together, Searle often resorts to the example of banknotes: by means of collective intentionality, we acknowledge that, in a certain context some pieces of paper have a new status, the status of banknotes. In accordance to this new status, these pieces of paper can carry out some functions, e.g. the function to be used as a medium of exchange.

In *Making the Social World*, Searle proposes a new and more general theory in which the creation of the social reality is explained by means of particular types of declarations called *Status Function Declarations*: 'in such cases language enables us to create a reality by representing that reality as existing'.[6] They have this general form: *we make it the case by declaration that the Y status function exists*. One can see that this formulation does not require necessarily an X term, a physical object; therefore this approach has the benefit of accounting for the so-called *free-standing Y terms*. Indeed, as Barry Smith[7] notices, some social objects, such as debts, do not have a physical form, there is not a physical object that becomes a debt.

Declarations can be formulated in different ways according to the type of institutional fact in question. Therefore, X counts as Y in C is only one kind of Status Function Declaration, but there are many other types. This allows them to adapt to the social reality's complexity.

In this new account, collective intentionality also plays a crucial role, and Searle provides a more detailed examination of it. According to him, there are two forms of collective intentionality: *cooperation*

5   J. Searle, *The Construction of Social Reality* (New York, 1995), 24–5.
6   Id., *Making the Social World. The Structure of Human Civilization* (New York, 2010), 68.
7   B. Smith, 'Un'aporia nella costruzione della realtà sociale. Naturalismo e realismo in John R. Searle', in Paolo Di Lucia (ed.), *Ontologia Sociale* (Macerata, 2003), 137–52.

and *collective recognition*.[8] The creation of an institution, such as the institution of money, and the acts within an institution, such as buying and selling within the institution of money, require cooperation. People cooperate when each member of the group believes that other people have an *intention-in-action* of the same form as his. Put another way, each member of the group must believe that there is a common goal and that each individual contributes to the achievement of that goal by means of singular actions. The existence of an institution, on the contrary, requires only a collective recognition, namely the sharing of some beliefs, such as the belief that pieces of paper with specific characteristics are banknotes.

At this point the question is whether such an approach can help to account for trade and thus for the *connection* between trade and speculative bubbles. Unfortunately, it would appear not. By claiming that acts within an institution require cooperation and collective recognition, hence collective intentionality, Searle takes it for granted that a transaction occurs always between human beings.

However, there are two interesting counter-examples. The first regards E-commerce, a form of trade that allows us to sell and buy online. In this case, transactions occur between a human being and a piece of software: the former has intentionality, the latter does not have it. Therefore, there is neither cooperation nor collective recognition. The second counter-example is more extreme and regards automated trading systems. They are computer programs that, by following a defined set of instructions, do what human traders usually do, namely buy and sell securities. According to Wikipedia, 'as of 2014, more than 75 per cent of the stock shares traded on United States exchanges (including the New York Stock Exchange and NASDAQ) originate from automated trading system orders'.[9] Also this case shows that some transactions may occur between a human being and a program, but only the former has intentionality. Most importantly, this case shows that some transactions may even occur between two automated trading systems; in this case there is no intentionality at all. At this point, it would seem that there are two alternatives: either accept that acts within an institution do not necessarily require collective intentionality or argue that machines possess intentionality.

8   J. Searle, *Making the Social World*, 42–60.
9   Wikipedia, <https://en.wikipedia.org/wiki/Automated_trading_system>

The first option appears to be much more feasible, but one has to recognize the fundamental role played by *traces*. Searle does not completely overlook them; indeed, in his opinion the creation of complex entities such us a corporation requires 'an elaborate set of written constitutive rules … and an elaborated written record of the activities of the corporation'.[10]

Nevertheless, in an effort to provide an explanation of *all* forms of trade, not only those between human beings, one may go further and provide a more detailed analysis of this 'written record'.

Documents

An interesting alternative to Searle's approach is the theory drafted by Maurizio Ferraris in *Documentality* (2009). In Ferraris' opinion, it is possible to account for the construction of the social world by means of a simple rule: *Object = Inscribed Act*. A social object is an act that involves at least two people; this act is inscribed in a document, in a computer file or in people's mind.[11]

The law Object = Inscribed Act is omnipresent in social reality, and can be articulated in two ways, one strong and the other weak. The strong or literal version has to do with the construction of documents within an institutional reality. Here we have genuine writing at work ... Then there is a broader and weaker understanding that concerns the construction of social objects; in this zone, we take in forms of inscription that are not identified with writing in the full sense – from marking a territory to making a mental note to performing a ritual – but that in point of fact fall within the sphere of what Derrida called 'archiwriting'.[12]

Hence, a transaction would consist in an act that involves a buyer and a seller and is inscribed in a document. One may wonder whether Ferraris' rule is able to account for transactions that involve machines. The answer seems to be positive. Elsewhere, Ferraris himself specifies that a social act may 'involve at least two people, or a delegated machine

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10   J. Searle, *Making The Social World*, 98–9.
11   M. Ferraris, *Documentality. Why it is necessary to Leave Traces* (New York, 2014), 159.
12   Ibid., 206.

and a person'.[13] Moreover, whereas his theory does not require that intentionality has to be present during each act (indeed, it plays a minor role in the construction of social objects),[14] it is possible to advance still further and claim that a social act may involve just machines. The key word is *delegated*. By means of a delegation, a person allocates to someone else the power to do something. Nowadays, we constantly delegate machines to carry out tasks for us; therefore it is no surprise that, among these responsibilities, there is the creation of social entities.

In summary, one may say that a social entity such as a transaction arises when three conditions are satisfied. First, there must be a social act that involves at least two agents (people or delegated machines). Second, this act must be inscribed in a material support. Third, in order to be binding, the act and the inscription must be executed in accordance to the institution's rules, namely the system to which they belong. In Italy, for instance, a real-estate transaction may occur only in the presence of a notary, otherwise it is not legal.

It is now clear that, in the creation of institutional entities and therefore in economic transactions, documents are pivotal, whereas intentionality, in some cases, may be even absent. With regard to intentionality, as Giuliano Torrengo points out, one may simply think that 'the only relevant shared intention in an institutional context for the existence of institutional entities is that of deferring to established procedure as to what contents are socially binding, namely, as to what grounds facts about institutional reality'.[15]

Barry Smith recognizes the significance of documents; however, he maintains a different position from Ferraris. As has been mentioned in the second paragraph, according to Smith, the constitutive rule proposed by Searle, *X counts as Y in C*, is flawed. Indeed, in the case of social entities such as debts, financial instruments, or rights, 'there is no physical X term to which the corresponding properties or powers could be ascribed'.[16] Smith terms these particular social entities *quasi-*

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13 Id., 'New Realism, Documentality and the Emergence of Normativity', in Fabio Bacchini – Stefano Caputo – Massimo Dell'Utri (eds.), *Realism and Ontology Without Myths* (Newcastle, 2014), 114.

14 M. Ferraris, *Anima e Ipad*, ed. Ugo Guanda (Parma, 2011), 90–1.

15 G. Torrengo, 'Institutional Externalism', *Philosophy of the Social Sciences*, 47 (2017), 83–4.

16 B Smith, 'Searle and de Soto: The New Ontology of the Social World', in Smith-Mark-Ehrlich (eds.), *The Mystery of Capital and the Construction of Social Reality* (Chicago, 2008), 39.

abstract entities: on one hand, they are both non-physical and non-psychological, but on the other hand, unlike standard abstract entities (e.g. numbers), they are historical: they exist in time.[17]

Even though a debt does not have an X term, it is still linked to the physical reality, more specifically it is anchored 'in the realm of records and representations'.[18] It means that 'debts depend for their existence on representations, which may enjoy a merely ephemeral existence in the form of memory traces, or which may be transformed into enduring representations by being written down'.[19] It is important to notice that, albeit a debt is linked to a document, the latter *only* represents the debt. Consequentially, the document neither *counts as* the debt, nor is the debt the document.

Both Smith and Searle, hence, claim that the social reality is partially constituted by non-physical entities. The same perspective is also confirmed by the economist Hernando de Soto. In *The Mistery of Capital* (2000), he argues that the capacity of an asset to create wealth, and therefore to become live capital, depends on formal property systems. In the countries where these systems are absent, such as the former Soviet Union, the Middle East, and Latin America, houses are simply shelters. On the contrary, in the West, houses have a parallel life as capital outside the physical world. They are live capital; indeed, for instance, they may be used as collateral for a loan by which it is possible to start or expand a business and thus create wealth.[20]

The following passage, that is often cited by both Smith and Ferraris, elucidates the point:

Capital is born by representing in writing – in a title, a security, a contract and other such records – the most economically and socially useful qualities *about* the asset, as opposed to the visually more striking aspects *of* the asset. This is where potential value is first described and registered. The moment you focus your attention on the title of a house, for example, and not on the house itself, you have automatically stepped from the material world into the conceptual universe where capital lives.[21]

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17   Ibid., 37.
18   Ibid., 44.
19   Ibid., 39.
20   H. de Soto, *The Mystery of Capital. Why Capitalism Triumphs in the West and Fails Every-where Else* (New York, 2000), 36–7.
21   Ibid., 48.

De Soto, like Smith, uses the verb *to represent*; however, there is a relevant difference. According to Smith,[22] a marriage license, namely a document, allows the creation of a bond of matrimony. The latter is a quasi-abstract entity and, as such, it is anchored to the document. The marriage license *represents* the bond of matrimony. According to de Soto, a document *represents* an asset's qualities but these qualities are not anchored to the document; they are rather anchored to the asset itself by means of *that* document. It would seem, therefore, that qualities are attributed, not represented. Consider this simple case. Carlotta has just graduated with a degree in veterinary science. Her diploma allows the existence of some quasi-abstract entities, such as a qualification, and the latter is anchored to the document. In addition, on the document, some social properties are specified. Some of them, such as name, surname, date of birth, and so on, belong already to Carlotta; these types of properties are only proposed again by the document in order to specify her identity. Other properties, such as the property of being graduated, are *attributed* to Carlotta by means of that very document. In these cases, there is no representation of properties.

Now, let us get back to speculative bubbles and in particular to a real-estate bubble. At the lower level, people sell and buy houses. Transactions occur by means of documents, specifically property contracts. The latter are the physical objects to which some quasi-abstract entities, such as property rights, are anchored. Moreover, contracts attribute some properties to people involved: the buyer, for instance, acquires the property of being the owner. Contracts attribute some properties also to assets, namely the houses, such as the property of having a certain value. The crucial point is that the first property may be permanent: the owner ceases to be an owner only if he decides to sell the house. On the contrary, the property of having a certain value is unstable, it may change continuously, irrespective of our will. This difference is due to the fact that the property of having a certain value is involved in the loop associated with complexity of which Brian Arthur speaks. People actualize their behaviour by signing documents, these documents attribute a certain value to assets, this value affects the market trend, the latter, in turn, affects people's behaviour, and so on.

22   B. Smith, 'Document Acts', in Anita Konzelmann Ziv – Hans Bernhard Schmid (eds.), *Institutions, Emotions, and Group Agents. Contributions to Social Ontology* (Dordrecht, 2014), 22.

Conclusion

There are good reasons to think that a speculative bubble is an emergent entity. It is usually regarded as the outcome of agents' behaviour that is actualized by means of buying and selling operations. Since transactions may occur even between two delegated machines, such as automated trading systems, in order to provide an adequate account of the lower level from which a bubble arises, the essential element to consider is not the intentionality, but rather the *document*. On one hand, it allows the anchorage of quasi-abstract entities: property right, for instance, is not a physical entity, therefore it needs to bind to a material object, namely a document. On the other hand, this paper has argued that a document also has the function to attribute properties to people and assets, such as the property of having a certain value. The latter is particularly important in so far as it is one of the most important property involved in the existence of a bubble.

Acknowledgments

Gloria Sansò, MA (Turin), graduated in Philosophy under the supervision of Maurizio Ferraris in 2016. Her main interest is social ontology with a special focus on the role played by documents in the economic field. She is currently working on speculative bubbles and in this paper she presents the initial results of her research.

Marketing and Promotion of OAR@UoM: The Open Access Institutional Repository of the University of Malta

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Abstract: In 2014 the University of Malta Library launched its Open Access (OA) Institutional Repository: OAR@UoM. Since OAR@UoM is the first and only online institutional repository on the Maltese Islands, it also plays a major role in promoting OA nationally and in forming partnerships with other stakeholders who lack the infrastructure but are interested to deposit in OA. This pushes the boundaries of traditional IRs and creates a new sets of challenges. The Outreach Department of the library was tasked with promoting OAR@UoM and to develop training workshops to instruct academics on how to upload their research on the IR, whilst also providing some background information on OA and the benefits associated with it. A number of promotional material was created and disseminated on campus to help increase the awareness of OA and OAR@UoM. During its annual OA week in October, the library organizes OA-related activities and talks on campus. In 2015, in collaboration with FOSTER, the library organized a conference to address the misconceptions regarding OA brought forward by a number of academics. The one-day conference was entitled 'Open Access and its impact on research and scholarship'. Discussions on the impact of OA on the Maltese research/academic community, and training on how to upload on OAR@UoM were the focus points.

This paper will look into the effectiveness of the promotion and marketing strategy followed by the Outreach Department in relation to the (OA) repository. It will also look into the increase in submissions done willingly by academics and how their perception of OA has changed. This paper will also investigate the creation of an Open Science Department to assist academics with OA-related queries. Will the creation of a

department exclusively responsible for OA have a big impact on the academics? How can the Open Science Department collaborate with the Outreach Department to create a more effective marketing strategy to promote OA publishing and submission of research papers on OAR@UoM? This paper will come up with suggestions for such questions by looking specifically at the case at the University but also compare this with other scenarios of how OA was promoted in different institutions.

Keywords: Open Access Publishing, Institutional Repositories – Malta, OAR@UoM, Library Marketing

I n September 2014 the University of Malta (UM) launched its Open Access (OA) Institutional Repository (IR) – OAR@UoM. In line with other institutional repositories of higher education institutions, the repository's primary goal is to collect, preserve, and disseminate the research output of the UM. OAR@UoM is an online platform which supports academics and researchers in publishing their research output in OA and eliminating the hefty recurrent expenditures for licensing online journals hosted by commercial publishers.

After nearly two years, the library has managed to populate the repository with several important research resources. There are over 12,000 different authors who have items deposited on OAR@UoM. These items are also the result of the library's own initiative to find appropriate content and upload it on behalf of the creators. On a first glance 12,000 authors might sound impressive but at least half of them are students and their dissertations. Of the remaining half, about 10 per cent are voluntary submissions from academics (self-deposited or mediated), with the rest being the result of the library's initiative to collect Maltese-published research. As of the end of October 2017, there are a total of 20,825 items available on OAR@UoM, over 6,846 articles, 2,430 recordings, 366 books, 4,171 undergraduate dissertations, and 2,276 postgraduate dissertations. This is just a fraction of the total research output produced by University staff.

University-published journals, such as the *International Journal of Emotional Education* (IJEE), *Journal of Malta College of Family*
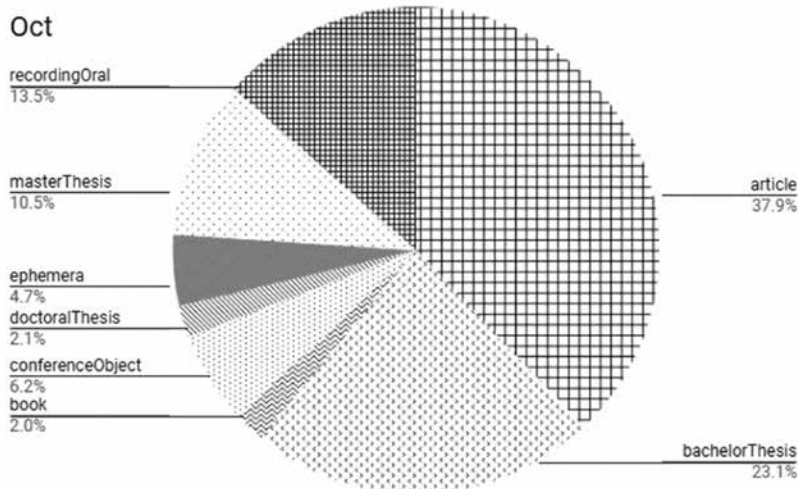
*Data as of end of July 2017

Doctors (JMCFD), *Images in Paediatric Cardiology* (IPC), *Xjenza*, *Bulletin of the Entomological Society of Malta*, *Antae Journal*, *Malta Journal of Health Sciences*, *Malta Medical Journal*, *Think Magazine*, and *Symposia Melitensia*, upload their issues to reach a larger audience. All pdfs uploaded are searchable and, since OAR@UoM is OpenAIRE compliant and indexed by Google and Google Scholar, this increases visibility to the material exponentially.

Apart from scholarly works, OAR@UoM hosts other material. University Campus FM sees OAR@UoM as a means to archive their programmes and also benefit from the visibility boost. Electronic dissertations uploaded on OAR@UoM are not available in OA although the metadata of these dissertations is. In fact, the library receives a number of requests from various researchers from different countries to gain access to these dissertations. The School of Performing Arts is also digitizing and uploading its collection of ephemera.

The library is presently working on digitizing Melitensia pamphlets (material related or talking about Malta by Maltese authors or of Maltese heritage importance) and uploading them on OAR@UoM. Since OAR is the only repository on the island, an External Research Collection section has been created to collect digital cultural heritage not published by the UM. This collection is serving as a national repository.

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OA marketing

Since OAR@UoM is the first and only online institutional repository for the UM and the only academic repository for the whole country, it serves as an opportunity to expand partnerships with other institutions. This pushes the boundaries of traditional IRs and creates a new sets of challenges for librarians.

One such challenge is promoting the idea of uploading research in OA to academics who are unaware of OA or their copyright obligations and restrictions. For this reason, awareness is crucial and the library actively promotes OAR@UoM to academics as a platform where research created by the University is preserved and also showcased online in OA. This highlights the value of having University-created research available on the repository both for preservation purposes and also to make research available on an international level without any restriction.

The library staff organizes training workshops on how to upload research output onto OAR@UoM and shows academics the benefits of OA publishing. Librarians also offer direct one-to-one training sessions with academics addressing copyright and plagiarism issues as these might be one of the many issues holding back academics from submitting their research. The library takes part in several events, both at National and also at European level, to constantly raise awareness about the repository and also learn new trends in OA. Every October the library organizes 'OA week on Campus' where more in-depth training is given and awareness about research in OA is raised. In May 2015, the library in collaboration with FOSTER (Facilitate Open Science Training for European Research) hosted a conference, specifically aimed at academics who publish on a regular basis. The goal of the conference was to address main concerns and issues academics have with uploading their research on the repository in OA.

Furthermore, the library was quick to identify champions to serve as ambassadors of OA. These individuals are researchers with the most articles available in OA on OAR@UoM and, by recognizing their support, the library worked with them to help promote the practice of uploading research on OAR@UoM via various events both on campus and off campus.

This also helped to market the idea of OA in an informal way by word of mouth and is the building block to start changing the culture and mentality of researchers in Malta. The OA champions were crucial in the yearly OA week activities. Talks and workshops highlighting the many benefits of OA, together with practical examples provided by the champions of OA, help reach a wider audience and put the spotlight on OA.

Linking with Open Archives Initiative (OAI) service providers

To further promote Maltese academic output, OAR@UoM was linked with various Open Archives Initiative (OAI) service providers. The OAI was established in 1999 with the singular goal of developing and promoting technical interoperability standards which would aim effective dissemination and sharing of metadata. OAI introduced a simple technological framework based on metadata harvesting that would consist of two types of participants: data providers and service providers. Maximizing exposure of Maltese academic research uploaded on OAR@UoM increases the chances of establishing new collaborations with international entities and presents new funding opportunities.

However, even with all the listed benefits of exposure and similarly to other institutional experiences, some academics are still reluctant to submit their research on OAR@UoM. Furthermore, in the introduction of IRs in other institutions, the initial years are the time when the library has to be the most active in the promotion and the encouraging of academics to upload their research in OA.

The need of an OA policy

Unfortunately, similarly to other institutional experiences, some academics are reluctant to submit their research on OAR@UoM (however, some of them are happy to submit their publications to social media platforms like http://academia.edu or http://researchgate. net). The initial years are the time when the Library has to overcome

various reasons which hinder the submission of material to OAR@ UoM by academics. At this stage institutions could consider adopting an exclusive Gold OA policy to mandate research to be published in OA journals but institutions expecting to adopt such an approach can be criticized for not taking into consideration the financial requirement for doing so, especially catering for APCs (Article Processing Charges). This is similar to what happened in the UK when the government tried to implement a national OA policy favoring the Gold model at the expense of the Green model.[1] With the implementation of an OA repository instead of an OA policy first, the UM promoted the self-archiving route (Green OA) while also recommending and supporting Gold OA Publishing. Unfortunately, disseminating information and speaking at local conferences, was not enough to persuade academics to upload material on OAR@UoM. Since at the UM, we do not have a structure to guarantee funding of APCs, the library started working on an OA policy to mandate submissions onto OAR@UoM (Green OA) while supporting OA publishing (Gold OA).

The library's goal is to bring together the Maltese research community by enhancing their awareness on OA; however, owing to the reluctance of academics to upload, in order to guarantee that researchers will submit material onto OAR@UoM in OA, the UM has to issue a mandate that clearly outlines the responsibility involved with such an obligation. This may further impact the country as a whole owing to the fact that research produced will be internationally visible and can result in foreign entities investing in local research.

Developing an OA Policy for the UOM

IRs are major players in the OA movement. However, in order to guarantee that researchers submit material onto the IR in OA, the UM has to issue a mandate that clearly outlines the responsibility involved with such a task; hence the development of the OA policy at the institutional level. For this reason, a committee was formed by a number of UM librarians to develop an OA policy that requires research

1   Kamil Mizera, 'Parliamentary Committee Criticizes Current Policy on Open Access in the UK': http://openscience.com/parliamentary-committee-criticizes-current-policy-on-open-access-in-the-uk.

being created at the UM to be publicly available on OAR@UoM.

It was decided that the OA policy should reflect such themes by dividing the policy in different sections. The first section deals with clear definitions of OA, peer-review material, and non-peer-reviewed material. This needs to be clear as to provide guidance on what will be and will not be accepted as submissions.

The second section deals with an outline of responsibilities that each stakeholder has. For example, the Institution (University of Malta) should provide an OA platform for researchers and also provide support regarding copyrights. Authors/researchers must ensure compliance with the OA policy while also making sure that they own the copyrights of their submitted material. They can further request embargos instead of waiver options/opting out except specific cases which need to be tackled on a case-by-case basis. The library will be dealing primarily with Green OA, where no charges are imposed on submitters to make research submitted OA-compliant. The library shall manage the IR, provide training to submitters about OAR@UoM, review the metadata of submissions, and be responsible of marketing and promotional campaigns about OAR@UoM.

The third section is all about copyright issues. It must be clear that each submitter will retain the copyright on his submissions. Furthermore, the OA policy will recommend that every research funded or supported by the University, either in full or in part, must deposit the final research paper/report in OAR@UoM. This will take priority over publisher's agreements, unless the research was published in OA journals that allow for IR submissions.

The final section of the policy will tackle waiver options and embargo periods. The policy guides researchers/UM academics to submit research on OAR@UoM and provide OA to their research created/ funded by the UM or the EU. Waiver option should be restrictive as much as possible. Instead of waiver options, embargo periods will be favoured. This will restrict academics from opting out of the policy.

Once drafted this policy was reviewed by the UM legal executive and forwarded to the University of Minho in Portugal for feedback. Once approved by the Library Committee, it was forwarded to the registrar's office to be presented and approved by the UOM Senate.

The Open Science (OS) department

While working on the OA policy, the library managers agreed upon the creation of the OS department to be responsible for providing assistance to academics regarding OA matters. OA has influenced the mechanism of publishing research. Quite often researchers are unaware of the number of publications available via OA, of how to access them, how to publish in OA, or how to use an IR. Subsequently it was of utmost importance to increase awareness of OA with UM researchers and educate stakeholders of the benefits of publishing in OA both for themselves and for the institution, the various approaches towards OA, including both Green and Gold OA models, and the reasons why UM has an OA policy. The idea was to have a better-equipped team to both promote OA and carry out research to upgrade and enhance the IR, while seeking advice from foreign institutions regarding OA.

Once the OA policy is implemented, the OS team will set up meetings with deans and directors of University faculties/institutes/centres and their respective heads of departments. These meetings should serve as a direct approach to the main stakeholders; subsequently during said meetings the OS team (for any queries regarding OA) and Outreach team (for any training regarding uploads on OAR@UoM) will coordinate and a representative from each team will be present. Furthermore, either the director or deputy director will be present to guarantee that both teams will be able to assist and provide more clarifications to the stakeholders present.

During the first year after implementation, STEM (Science, Technology, Engineering and Mathematics) faculties will be targeted, owing to the high turnover of their research. Nonetheless if, during the first year, other academics/researchers are interested, the Open Science Team should cater for them accordingly. Topics to be discussed will include the benefits of publishing in OA both as individuals and for the institution's benefit, which could lead to the possibility of financing research through private sectors and collaboration with foreign institutions. Similarly academics will be made aware of the appraisal of their research being carried out by the faculties/institutes/centres and possibility of asking for further UM research grants. The OS team

will provide assistance regarding the various approaches towards OA, including both Green and Gold OA models, including copyright issues with publishers and deposits (encouraging self-deposit rather than mediated deposits) on OAR@UoM.

Furthermore with the implementation of the OA policy, the OS team will organize group and individual meetings with UM researchers on a regular basis and will give the necessary support to researchers to publish their works in OA. Since copyright clearance is one of the major issues that researches are sceptical about, the OS team will provide the adequate copyright advice. Academics should also seek help from the UM Legal Office and the Knowledge Transfer Office.

Many UM researchers upload their research on Academia.edu and ResearchGate. It is important that researchers are made aware that in reality OAR@UoM is not that different from Academia.edu and ResearchGate and also that their work will still be indexed by Google and Google Scholar. Key stakeholders need to be encouraged to take positive concrete steps to make their research openly available, thus encouraging fellow researchers to follow suit.

Communication between all stakeholders is essential to identify win-win situations and mutual benefits in promoting and implementing OA. Webinars, similar to the ones which are being organized and marketed during OA week and which are available throughout the year, will be organized and marketed with UM researchers all year round via email and social media.

The OS team will organize author/publishing training workshops, organized in collaboration with publishing houses to help clear problems with regard to copyright issues. During these workshops academics already publishing in OA will be asked to share their experiences. A UM OS blog will be created through which the OS team will give advice to researchers and where researchers can share their experiences with regards to OA.

The OS team will be encouraging and supporting author self-deposit on OAR@UoM, but will also support mediated deposits. Since there is a waiting list, mediated deposited research will be uploaded on a first-come-first-served basis. This must be made clearly especially when there is a substantial number of mediated deposits, for example when there are calls for academic progression and promotion at the UM. In order to implement the policy, the promotions and reviewing body will

be responsible for enforcing the OA policy. This will ensure, together with other initiatives still being discussed, that academics are compliant with OA policy. As a means to help and support the performance and reviewing body at the UM, the OS team will be providing indexing services to monitor and implement OA policy. So when an academic publishes his research with a publisher like Web of Science, JSTOR, Ebsco, etc., members of the OA team will check if the research has also been uploaded on OAR@UoM; if not, contact the academic to help them upload the research on the repository.

Some UM departments publish departmental journals. The OS team will be contacting the respective editors of these journals and encourage them to deposit electronic copies of these publications. Furthermore, some UM researchers are editors of journals not published by the UM; during the meetings with researchers, they should be made aware and encouraged by the OS team of the possibility of uploading these journals on OAR@UoM. Researchers must be made aware that this will increase visibility of their publications, enhance their academic profile, and enrich the Library's Melitensia digital collections. When contacting these editors, the OS team should check with editors if electronic copies of past issues are available to be uploaded. The OS team should push editors and website managers to upload their respective journal articles on OAR@UoM and create links from their websites directly to the respective research on OAR@UoM instead of having the same journal/article (in full text) uploaded on their websites.

The OS team will also be populating the repository with retrospective research from UM academics. Having previously restricted research uploaded on the IR will provide an accumulated pool of knowledge which will be visible and accessible to more researchers, giving more benefits to academics and an extra incentive to upload current research in OA.

The OS team will be using Google, Google Scholar, Web of Science, Scopus, Academia.edu, ResearchGate, and other abstracting and indexing databases, to search for research being published by UM researchers and contact the researchers to provide the necessary copyright clearance so that this research can be included on OAR@UoM. Departmental websites will also be monitored and checked for list of research being published under their auspicious, and request

and acquire publications accordingly. The OS team will try to contact authors of past Ph.D. theses which are already available in restricted access on OAR@UoM, and get copyright clearance from the authors to place them in OA.

As a result, the OS team will be directly responsible for monitoring what is being uploaded on OAR@UoM in restricted access (collected either through digitization projects or through browsing abstracting and indexing services), and contacting the respective authors/editors to provide permission to place their research in OA.

Conclusion

Since 2014, the UML has come a long way when it comes to OA but there is a lot more work to be done. The main priority is to implement the OA policy and continue to change the local mentality regarding OA. With the creation of the OS department, academics will be encouraged to upload their published work on the IR and the OS team will also be responsible for checking the UM researcher's publication to make sure they are compliant with the OA policy. With over 1,200 academics/researchers, one of the obvious obstacles to OA was the culture-change within the academic community. There was little or no understanding of OA before 2014; so when the UML decided to work on an IR and on OA, awareness and communication became a priority. Another hindrance to OA was the misinformation circulating among researchers. Misconception regarding peer-reviewing in OA, copyright, and plagiarism are the main concerns for academics learning about OA publishing. As a result a lot of work by the UML consisted in information sessions/training sessions. The UML also had to create the IT infrastructure to support OA. By looking at various free software available, the UML was able to choose the most appropriate and efficient system for the UM. This, however, required training and more research on best practices and OA data management. Subsequently, as there was no local expertise to guide the UM through OA-related queries, the UML staff had to go through a learning curve by conducting their own research to become well informed and kept up-to-date with OA-related news.

With the limited resources available, the UML could not target all the academics at one go. Having champions of OA as a point of departure helped the UML to spread a consistent message regarding OA and made the UML more approachable to support academics. A lot of academics found it to be a burden having to upload their retrospective research on the IR, especially when they had no electronic copy of the research available. As a result, the library staff had to provide the service of both mediated deposit and digitization. Some academics were only interested in publishing with particular journals which either had very high APCs or did not support OA. Since the UM has no funds related to APCs, this hindered the adoption of OA for these academics. Even though academics are offered an alternative to Gold OA by asking for permission from publishers to upload their research in the UM IR (Green OA). Many publishers who do not give standing permission will agree to case-by-case requests. Academics are recommended to use the SHERPA request template when asking for such permissions.

Another alternative is to use an author addendum – a proposed modification to the publishing agreement, written by a lawyer, giving the author the right to authorize OA (and sometimes other rights as well). Since it is only a proposed modification, publishers may accept or reject it.

As an emerging OA repository OAR@UoM is providing the best platform for Maltese research to be visible online. The next step to continue supporting OA in Malta is having an institutional OA policy which helps in multiple ways: it provides a clear message to researchers about how their university expects them to engage with OA, and for support staff it helps when structuring advocacy sessions and answering enquiries.[2] The fact that we have one university gives us the advantage of delivering a unifying and clear message without conflicting with other research-related policies, even on a national level. Considering the various aspects of OA, technological provision, policy provision, and attitudes of researchers, various countries follow different routes. In small countries there is also the aspect of IRs playing larger roles, providing OA to generic academic output, not only at institutional level. With a successful technological deployment what remains vital

2   Hannah DeGroff, 'Open Access and Knowledge Sharing: Reflections on the Pathfinder Projects and Open Access Good Practice Initiative', *Insights*, Vol. 29, No. 2 (2016), 133–9.

at this point is to find the best local policy tools to improve the local participation of Maltese academics/researchers.

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e-Learning for older workers in SMEs? The perceptions of owners and workers in Maltese microenterprises

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Abstract: This paper presents the findings of a qualitative investigation of the perceptions about online training programmes of owners and older employees in Maltese microenterprises. The main data-gathering tool was the semi-structured interview. The analysis of the empirical data was achieved through grounded theory approaches, including constant comparison, coding and memoing. The findings indicate that owner-managers and older employees have a negative attitude towards training in general, and company-related e-learning efforts in particular. Various factors were identified. However, the data suggests that, if the online courses are designed to meet the demands of both owners and employees, and if they have a non-formal, non-directive form, like work-based learning, they can encourage the participation of older employees in training.

Keywords: e-learning, SMEs, microenterprises, older workers, adult education and training

In the first quarter of 2017, the gainfully occupied population in Malta stood at 192,277.[1] 75% of this work-force is employed in the private sector which is dominated by SMEs. There are 30,494 small- and medium-sized businesses (SMEs) on the islands. These constitute 99.8% of the private sector enterprises and employ 78% of the employees.[2]

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1 National Statistics Office, *Labour Force Survey: Q1/2017* (Malta, 2017), 1, https://nso.gov.mt/en/News_Releases/View_by_Unit/Unit_C2/Labour_Market_Statistics/Documents/2017/News2017_103.pdf (accessed 16 July 2017).

2 Eurostat, *Small and Medium-Sized Enterprises (SMEs)*, http://ec.europa.eu/eurostat/web/structural-business-statistics/structural-business-statistics/sme (accessed 10 July 2017).

The profile of European Union (EU) labour markets is similar: 99.8% of all enterprises in the EU28 are SMEs and two-thirds of all private sector jobs are within the SME sector. Collectively, in 2015, these produced €3.9 trillion, that is more than half the total 'value-added' in the European economy and employed 90 million people.[3]

Almost 93% of European SMEs are microenterprises with fewer than 10 employees; approximately half of these SMEs have no employees at all.[4] Malta has the largest share of microenterprises in the EU, accounting for 95% of all enterprises and employing 43,576 – slightly more than one-third of private sector employment. Only around 350 companies are classified as medium or larger enterprises.[5]

According to the OECD, SMEs have weathered the storm of the global financial crisis.[6] Martin notes that, in Malta, this success was achieved despite the many obstacles that exist in the local business environment.[7] Her investigation suggests that one of these obstacles is the lack of investment in the training of employees.

Training in SMEs and the case for older workers

The literature agrees that training can further increase the success of these small businesses.[8] However, Manimala and Kumar argue that

3   P. Muller, S. Devnani, J. Julius, D. Gagliardi, & C. Marzoc, *Annual Report on European SMEs 2015/2016: SME recovery continues* (Brussels, 2016), 3, https://ec.europa.eu/jrc/sites/jrcsh/files/annual_report_-_eu_smes_2015-16.pdf (accessed 12 July 2017); A. Nairn and H. Mann, *In Good Company: A Study into SMEs Across Europe*, Microsoft with Hult International Business School (2017), 7, https://ncmedia.azureedge.net/ncmedia/2017/03/Microsoft-In-Good-Company-report.pdf (accessed 20 July 2017).

4   Muller *et al.*, 1.

5   Eurostat, *Small and Medium-Sized Enterprises*.

6   OECD, *Financing SMEs and Entrepreneurs 2014: An OECD Scoreboard* (Paris, 2017), 3, http://www.keepeek.com/Digital-Asset-Management/oecd/industry-and-services/financing-smes-and-entrepreneurs-2017_fin_sme_ent-2017-en" \l "page5" (accessed 20 July 2017).

7   G.M. Martin, *SMEs in Focus: Exploring the experience of micro, small and medium enterprise owners in Malta.* (Malta, 2013), https://www.um.edu.mt/library/oar/bitstream/handle/123456789/789/SMEs%20in%20Focus%20report%20_Gillian%20_M_Martin.pdf?sequence=1&isAllowed=y (accessed 2 July 2017).

8   R. Blackburn and A. Hankinson, 'Training in the smaller business–investment or expense?', *Industrial and Commercial Training*, Vol. 21, No. 2 (1989), 27–9; N. Chi, C. Wu, and C.Y. Lin, 'Does training facilitate SME's performance?', The International Journal of Human Resource Management, Vol. 19, No. 10 (2008), 1962–75; D. Antonioli and E. Della Torre, 'Innovation adoption and training activities in SMEs', *The International Journal of Human*

SMEs are 'hardly aware of their own training needs'.[9] Moreover, because of their economies, most European SMEs can neither afford an in-house training department nor the outsourcing of training programmes. Consequently, their record of investment in education and training has remained notoriously low and employees of SMEs undertake much less training than employees in larger firms.[10]

The literature also indicates that there is a mismatch between the available and needed training programmes.[11] There is also a mismatch between the training cultures of educational institutions and SMEs.[12] Ekanem and Smallbone thereby argue for training with an 'informal' character which is 'conceptualized as an experiential learning approach'.[13] Admiraal and Lockhorst explain that this type of learning is 'embedded in work activities, such as observing, asking questions, problem-solving, project work, secondment, coaching and being part of multi-disciplinary teams'.[14]

The situation is complicated further for older workers, which, in this paper, are those gainfully occupied persons aged 50 and over. Statistics from major surveys, including the OECD's *Survey of Adult Skills*,[15] confirm that, while the overall participation of older workers in training is increasing, there is still a consistent gap in participation between younger and older workers.[16] In SMEs, particularly in microenterprises, the participation of older workers is restricted further because of the

Resource Management, Vol. 27, No. 3 (2016), 311–37; G.O. Pérez-Bustamante Ilander, C.S. Marques, M.S. Jalali, and F.A.F. Ferreira, 'The impact of continuous training in small and medium enterprises: Lessons from an industrial case analysis', *Journal of Business Economics and Management*, Vol. 17, No. 2 (2016), 234–50.

9   M.J. Manimala and S. Kumar, 'Training needs of small and medium enterprises: Findings from an empirical investigation', *IIM Kozhikode Society & Management Review*, Vol. 1, No. 2 (2012), 97–110.

10 I. Stone, 'Upgrading Workforce Skills in Small Businesses: Reviewing International Policy and Experience (Report for Workshop on Skills Development for SMEs and Enterpreneurship)' (Copenhagen, 2012), http://www.oecd.org/cfe/leed/Skills%20 Workshop%20Background%20report_Stone.pdf (accessed 12 June 2017).

11 Ibid.

12 Ibid.

13 I. Ekanem and D. Smallbone, 'Learning in Small Manufacturing Firms', *International Small Business Journal*, Vol. 25, No. 2 (2007), 121.

14 W. Admiraal and D. Lockhorst, 'E-Learning in small and medium-sized enterprises across Europe attitudes towards technology, learning and training', *International Small Business Journal*, Vol. 27, No. 6 (2009), 744.

15 OECD, *The Survey of Adult Skills: Reader's Companion (Second Edition)* (Paris, 2016).

16 Cedefop, *Working and ageing: The benefits of investing in an ageing workforce* (Luxembourg, 2012), 57, http://www.cedefop.europa.eu/files/3062_en.pdf (accessed 20 May 2017).

owners' reluctance to invest in their training because of a perceived lack of return in investment.[17] This participation is also low because of the workers' own negative perceptions of training.[18]

The number of older workers in the Maltese workforce has increased gradually over the years.[19] The same trend is observed in Europe.[20] The rising proportion of older workers is mostly due to healthier lifestyles, a smaller fertility rate, and the consequent ageing of the population but these are not the only reasons.[21] Rising labour participation rates of older workers, less attractive early retirement arrangements, and tax incentives have also contributed.[22] Forty per cent of SME employers in Malta now have at least one employee who is over the age of 50.[23]

e-learning in SMEs

E-learning, which in this paper is defined as that learning that people undertake through full online or hybrid courses, can contribute immensely to this culture of 'informal learning in SMEs'. Moreover, owners and workers do not need to abandon their job to participate in educational and/or training programmes. Cedefop, the European Centre for the Development of Vocational Training, has, for over a decade, been considering e-learning,

17   Stone.
18   Ibid.
19   National Statistics Office, *Labour Force Survey (Metadata)* (Malta, 2017), https://nso.gov. mt/en/nso/Sources_and_Methods/Unit_C2/Labour_Market_Statistics/Pages/Labour-Force-Survey.aspx.
20   Eurostat, *Labour Force Survey* (2017), http://ec.europa.eu/eurostat/web/lfs/data/database (accessed 20 July 2017).
21   A. Chłoń-Domińczak, I.E. Kotowska, J. Kurkiewicz, M. Stonawski, A. Abramowska−Kmon, 'Population ageing in Europe. Facts, implications and policies', European Commission, *Population ageing in Europé: Facts, implications and policies* (Brussels, 2014), 8, https:// www.researchgate.net/publication/264160544_Population_ageing_in_Europe_Facts_ implications_and_policies (accessed 6 August 2017).
22   J. Thijssen and T. Rocco, 'Development of older workers: revisiting policies', in Cedefop, *Working and ageing: emerging theories and empirical perspectives* (Luxembourg, 2010), 15, http://www.cedefop.europa.eu/files/3053_en.pdf (accessed 23 May 2017); Ministry of Finance, *Malta National Reform Programme* (Malta, 2017), 23, https:// ec.europa.eu/info/sites/info/files/2017-european-semester-national-reform-programme-malta-en.pdf (accessed 12 July 2017); M. Formosa, *Malta National Strategic Policy for Active Ageing: Malta 2014–2020* (Malta, 2013), 25, https://www.um.edu.mt/library/oar/ handle/123456789/1433 (accessed 14 July 2017).
23   Eurostat, *Employment Rates of Older Workers* (2017), http://ec.europa.eu/eurostat/web/ products-datasets/-/tsdde100 (accessed 14 July 2017) National Statistics Office, *Labour Force Survey (Metadata)*.

through its 'flexibility and facility of access, to be a major enabler of lifelong learning' and 'a catalyst of change' for small and medium-sized enterprises.[24] It argues that online courses can help improve the SME business in the local and also the wider European market.[25]

However, while e-learning has had a major impact in tertiary education and has also become a very significant and alternative education and training dimension in large companies,[26] the research indicates that there was only a limited uptake of e-learning in SMEs.[27] The little research that exists, however, indicates that older workers can participate successfully in e-learning programmes.[28] That notwithstanding, the literature also indicates that the participation of mature workers, particularly those employed in SMEs, in e-learning efforts is very low.[29]

Research method

A sample of 15 employers and 23 employees was selected from a larger pool of prospective subjects who answered a call for participation through an e-mail sent by the Research Unit of Jobsplus on behalf of this researcher

24   G. Attwell, *The challenge of e-learning in small enterprises: issues for policy and practice in Europe* (Luxembourg, 2003), https://publications.europa.eu/en/publication-detail/-/publication/f6cab8b6-91ef-4e89-a339-7e02d5c64ada (accessed 12 June 2017).

25   Ibid.

26   Admiral and Lockhorst, 744; P. Guiney, *E-Learning in the workplace: an annotated bibliography* (New Zealand, 2015), https://www.educationcounts.govt.nz/__data/assets/pdf_file/0014/162041/E-Learning-in-the-Workplace-An-Annotated-Bibliography.pdf (accessed 20 July 2017); K. Bowman, and P. Kearns (2007), *E-learning for the mature age worker: Final Report* (Canberra, 2007), http://www.voced.edu.au/content/ngv%3A187 (accessed 26 June 2017); F. Daneshgar, C. Van Toorn, and E. Sau Chuen Chan, 'E-learning in Workplaces', *Information & Communications Technology* (Cairo, 2008), 65–70.

27   S.H. Averill, and T.B. Hall, 'An observatory of eLearning in Small Medium Enterprises (SMEs) in Europe – The Promise versus the Reality', in R. Griff (ed.), *E-Learn: World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education* (Vancouver, 2005), 220–5; M. Daelen, C. Miyata, I. Op de Beeck, P.E. Schmitz, J. Van den Branden, and W. Van Petegem, *E-learning in Continuing Vocational Training, particularly at the workplace, with emphasis on Small and Medium Enterprises: Final report* (European Commission, 2005), 9, https://lirias.kuleuven.be/bitstream/123456789/398469/1/EAC-REP-003+E-Learning+Final+Report+v3.0.pdf (accessed 14 July 2017); I. Hamburg, C. Lindecke and J. Terstriep, 'eLearning – a Chance for Small and Medium Sized Enterprises', *eleed*, Vol. 2, No. 2, (2005), https://eleed.campussource.de/archive/2/236, (accessed 25 July 2017).

28   Bowman and Kearns, 49.

29   Admiral and Lockhorst, 757; R. Andrée, 'Barriers to e-Learning in SMEs—Are they Still There?', in E. Gradinarova, *E-Learning – Instructional Design, Organizational Strategy and Management* (Rijeka, 2015) https://www.intechopen.com/books/e-learning-instructional-design-organizational-strategy-and-management (accessed 20 July 2017).

to all Maltese microenterprises employing persons who were 50 years or over. The respondents represented 12 enterprises from the top 12 categories (in terms of the business demography statistics of the National Statistics Office, 2017[30]) as per the NACE Rev. 2 classification system.[31]

NACE Rev. 2		
	Description	Category Selected for current study
A	Agriculture, forestry and fishing	1
B	Mining and quarrying	
C	Manufacturing	2
D	Electricity, gas, steam, and air conditioning supply	
E	Water supply, sewerage, waste management, and remediation activities	3
F	Construction	4
G	Wholesale and retail trade; repair of motor vehicles and motorcycles; Transportation and storage	5
H	Transportation and storage	6
I	Accommodation and food service activities	7
J	Information and communication	8
K	Financial and insurance activities	
L	Real estate activities	9
M	Professional, scientific, and technical activities	
N	Administrative and support service activities	10
O	Public administration and defence; compulsory social security	
P	Education	
Q	Human health and social work activities	
R	Arts, entertainment, and recreation	11
S	Other service activities	
T	Activities of private households as employers; undifferentiated production goods- and services-producing activities of households for own use	12
U	Activities of extraterritorial organizations and bodies	

Fig 1. The selection of 12 business categories

30 National Statistics Office, Business Demgraphics (Malta, 2017), https://nso.gov.mt/en/News_Releases/View_by_Unit/Unit_B4/Business_Registers/Pages/Business-Demographics.aspx (accessed 12 July 2017).

31 Eurostat, *NACE Rev. 2: Statistical classification of economic activities in the European Community*, (Luxembourg, 2008), 44, http://ec.europa.eu/eurostat/documents/3859598/5902521/KS-RA-07-015-EN.PDF (accessed 12 July 2017).

This researcher used 'intensive qualitative interviewing'[32] which created 'conversations with a purpose'[33] that were 'open-ended yet directed, shaped yet emergent, and paced yet unrestricted'.[34] The interviews were conducted in the Maltese language and a topic guide was used. In general, the interviews with both owners and employees lasted about an hour. The interviews were recorded, on agreement with the respondents, and on the understanding that the information provided would be treated with strict confidentiality. They were then transcribed and later translated into English. Later they were analyzed inductively using the constant comparative grounded theory approach through which a system of key codes, categories, and memos emerged from the data.

Ethical concerns

Ethical clearance was received by both the University of Hull and University of Malta research ethics committees. To ensure anonymity, *in vivo* quotes from owners were assigned the pseudonyms OW1 to OW 12, while those from employees, were given the pseudonyms EM1 – EM23. The names of the employers and employees mentioned in these quotes were changed to protect them.

Study findings

Attitude towards training
The majority of the owners looked at training as necessary, primarily, to set up the business.

However, when talking about their business in the present, the majority of owners shared 'a lack of interest in training' (OW1). They even claimed that, once they had set up their business, they never participated in 'formal' education and training programmes, even if these

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32   K. Charmaz, *Constructing grounded theory: a practical guide through qualitative analysis* (London, 2006), 28.
33   R.G. Burgess, *In the field: an introduction to field research* (London, 1984), 102.
34   Charmaz, 28.

were provided by government agencies or training institutions against no payment. They only made exception to training that was 'imposed' (OW3) on them – such as training in health regulations and skills. Most also did not invest in training programmes for their employee/s. This was confirmed by the employees. One employee (EM4), an assistant to the same carpenter for 30 years, argued that:

as long as I have worked with Michael I never trained. Never went to training. Never felt the need. All that I know, all that I needed, I learned from work, and from Michael. Michael taught me all the tricks.

The employers provided many reasons for this 'lack of interest in training programmes' (EM6). These included 'the cost of the available courses', their perceived 'ineffectiveness', the owners' overconfidence arising from the business successes, and the inability for them and their employee/s to leave work to participate in courses. Releasing employees for training in formal settings was difficult for the entrepreneurs. Lost working time was an especially important constraint for these owners who have to carry out multiple roles within the business as OW6 describes:

well … Mario and I are both graphic designers but we're also the salesmen, the cleaners, and the tech guys. At times … it's tough. We're always overworked. How can I think about training? How … when … can I go, when can I send Mario to training?

The interviews also revealed that employers and employees also lacked information on what training is available for them. They also lacked knowledge about the benefits of training. Owners also reported difficulty in accessing training that answered their real and specific needs in terms of type, quality, scheduling, and location. They also argued that local providers, such as the Malta College of Arts, Sciences and Technology (MCAST) and the Institute of Tourism Studies (ITS), were reluctant to develop and offer courses to their businesses. They believed that this was due to the costs needed to organize and customize courses and the often-small numbers of trainees. The data also revealed that most of the owners were 'reticent' (OW8) to pay for the full costs, or part thereof, of the development and provision of training programmes.

The poaching of skilled workers by other enterprises, and training that may lead to higher wage expectations or demands, were also mentioned as 'barriers to training' (OW8) by the employers. They argued that 'larger firms often pay higher wage rates than we do' (OW4) and feared that formal qualifications obtained by an employee, particularly if s/he was younger would increase his/her opportunity to move on to a bigger, and better-paying, enterprise. Training, particularly 'formal … and not done on the job, away from here (the workplace)' (OW4) was perceived by many of the interviewed employers to be of 'more benefit to them (the employees) than the firm itself' (OW11). Thus, those few owners – who considered training to be important to the success of their business – provided only in-house firm-specific training. This training upskilled the employees with 'less transferable skills … in the open market' (OW6).

The only exceptions were the owners of a family-run operation in the tourist industry (OW7) and the two technology-intensive small enterprises (OW9 and OW12). In the former, the owner of a small boutique hotel in Malta's sister island, Gozo, argued that he sent his son and daughter and husband – his three full-time employees – to various courses, locally and abroad, about hotel management, health and safety, and the culinary arts. The other two employers – one the owner of a small printing bureau and a computer services centre – also sent their workers to training courses. They agreed that their workers needed constant upskilling and updating in information and skills related to the business, particularly about new technology and software because 'this was essential for the success and/or survival of the business' (OW12). However, except for the family-run business, much of this training was offered to the younger employees.

Indeed, most of the owners argued that training older workers, particularly those who were 50 and over, was 'not on the(ir) agenda' (OW6), as one respondent put it. When asked 'how can older workers learn new skills that are relevant to their job?' (JV), the majority of owners insisted that it was 'up to the employee' (OW9) to learn new skills and knowledge, and preferably by 'learning on the job' (OW12).

The problem is compounded further by the older workers' own reticence to training programmes. This is an exchange with an unskilled female carer employed at a small home for the elderly. The business,

the owner confessed, is at the risk of closing down and the carer is well aware of the circumstances:

EM16: I have a family. I worked hard all my life ... since I was 16. I saved a bit. Why should I start training now?

JV: What if you become redundant?

EM16: If I lose this job … I will see what I can do … but I have no interest in training. I will try finding a job similar to this one. I have the experience … I know how to work with the elderly. I will find a job.

JV: Do you have any certificates that can help you?

EM16: No. I have the experience.

JV: At 51, you're still young … relatively young. Have you no interest in training that may improve your chances of finding a good job, perhaps a better job?

EM16: No. I was never good at school. But I was good in caring. I know how to work with the elderly. I do not want training.

Variations of this attitude towards training are scattered in the interviews with most of the employees across the majority of the 12 commercial categories. The exception were those older workers employed in the technology-dependent sectors.

Attitudes towards e-learning

All the microenterprises involved in this research project were equipped with the technology required for online learning: a PC, smartphones or tablet, and the Internet. Most of the enterprises also had a good Wi-Fi connection that could be used by all employees. However, only three businesses – one a restaurant and two within the ICT sector – had employees engaged in e-learning. These employees were younger than 50 years and, hence, no employee involved in this research project ever participated in an online course. Moreover, the data also showed that none of the interviewees, participated in an online course – free or otherwise – of their own volition.

Many reasons were gleaned from the data for this negative picture of e-learning in the microenterprises involved in this research. The most quoted include:

- There is a lack of knowledge about online courses and scant awareness of the potential benefits of e-learning to the enterprises and individuals (owners and workers);
- Most owners perceive e-learning courses (that they know about) not to be 'well-adapted to the very practical and specific needs' (OW7) of their SMEs;
- The learning culture of most of the microenterprises is informal. Owners and employees prefer just-in-time, immediate answers to problems that really matter. Most owners and workers, however, perceived online courses to be of the 'formal' kind, created by educational providers who do not cater for their specific needs;
- Training through online courses is perceived by both owners and workers to be costly, and beyond the budgets of the SMEs;
- Most owners only have 'little experience with technology' (OW1) which they mainly use to communicate via e-mail and Facebook, and to sell their services and products. Most workers also have a limited experience of technology, that is 'enough to use a mobile phone' or smartphone, 'play with the PlayStation', and/or 'set up a TV box'. Most owners and older workers perceive this limited experience and knowledge of digital skills as being 'insufficient for participating efficiently in an online course';
- Most older workers, and particularly those with a low level of education and the unskilled, had a lack of digital skills. They also believed that, at their age, it was difficult for them to learn these skills, and thereby participate effectively in online courses (if these were relevant to their needs);
- Older workers also argued that it was difficult to follow a course online while (i) on the job; and (ii) after working hours because of family, social (including active participation in sport associations and village feast decoration preparations), and other responsibilities (including a second, part-time job).

Notwithstanding the above, most owners and some employees, agreed that if the e-learning was tailored to their needs they would 'probably embrace' (OW9) it more. For example, one employer noted that all the online courses he knew of were in English. He argued that 'my two employees hardly know how to read and write' and 'their

English is very poor'. This, he explained 'made it difficult for them to follow any course'. If, on the other hand, 'a course … for example, a health and safety course … was in Maltese' and included videos of 'people talking' in the native language then his workers 'might be convinced to join'.

Conclusion

The data strongly indicates that, in Maltese microenterprises, the owners and older employees' attitudes towards formal learning, and e-learning in particular, are relatively negative. The results of the current study, therefore, conforms with findings from other investigations about e-learning in SMEs in other European countries.[35]

However, the respondents of this study report a relatively more positive attitude towards informal 'on-the-job' learning. The findings also suggest that any e-learning programme should be tailor-made to meet the specific needs of the enterprise and older workers, and fit within the informal learning culture that exists in these microenterprises. Available online courses will not be effective in this context. An easier access to e-learning, perhaps by developing a 'one-stop-shop for learning and setting up networks and communities'[36] with the specific intention of creating or sponsoring the provision of 'needs-specific' (OW2) and 'SME-friendly' (OW9) courses, can be beneficial to both the firms and the older workers.

Acknowledgements

35   Admiraal and Lockhorst; Daelen *et al*.; Hamburg *et al*.
36   B. Sinkovec, *E-Learning for Small Medium Enterprises: Compendium and Bibliography for the Graz Preparatory Workshop of 24 April 2009* (Slovenia, 2009), 46, https://www.knowledge-economy.net/uploads/2009/workshops/graz/EREF-2009%20Graz%20Workshop%20Recommendations,%20Compendium,%20Biblio.pdf, (accessed 10 July 2017).

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Non-Voting – Disconnecting from Partisan Politics

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Abstract: Through the issue of electoral abstention, this paper examines partisan disconnections arising from demobilization and dealignment trends in Malta: a country characterized by 'near universal turnout' and strong party loyalties. This socio-political understanding of turnout is examined within a triangular framework, addressing the macro-institutional and micro-individual dimensions of abstention.

Apart from the wider socio-political and cultural milieu, several demographic, institutional, and psychological variables are related to turnout. A typology based on the regularity and rationale of abstention proposes four main types of non-voters: ideological, antagonistic, indifferent, and circumstantial. The typology further differentiates between passive and active non-voters and insiders and outsiders to the political system. Despite their vast heterogeneity, non-voters tend to be younger, better-educated, more liberal, and more supportive of left-wing ideology. Non-voting is largely typified by voluntary, strategic, and rational forms of political expression, arising from cognitive mobilization and political protest against present modes of governance.

There are some signs that Maltese citizens are becoming more critical and distrustful of political parties and representative forms of democracy. This is also reflected in a more rational assessment of parties through increased floating and cross-party voting, as well as increases in non-electoral forms of political participation. These non-traditional patterns of behaviour present both evidence of partisan dealignment, as well underlying calls for political realignments.

Keywords: elections, turnout, dealignment, realignment

On election day, cloistered nuns have been known to abandon the seclusion of their convents … Other voters, sometimes only a few days from the grave, can also be seen being ferried, frequently of their own volition, from their sick beds to some polling station.[1]

T his is a vivid, yet very realistic, depiction of the scenario characterizing turnout in Maltese elections. Indeed, Malta has the highest electoral turnout in all Western democracies and ranks fifth in terms of electoral participation worldwide.[2]

While turnout has since the 1960s been declining steadily across all established democracies,[3] the turnout in Malta has remained relatively stable over the years with little major ebbs and flows.[4] Since the 1947 election, which exhibited a turnout rate of 75.4%, turnout has experienced a steady upward linear growth so that, from 1971 onwards, it has always been higher than 90%. On this basis, Malta has been described by Hirczy[5] as a country of 'near-universal turnout'.

Apart from its tradition of high voter turnout, Malta is also renowned for its remarkably 'strong and stable' partisan loyalties,[6] 'fiercely competitive party system',[7] and 'bi-polar nature of its politics'.[8] This

1   G. Pirotta, 'Maltese Political Parties and Political Modernisation', in R.G. Sultana and G. Baldacchino, (eds.), *Maltese Society A Sociological Inquiry* (Malta, 1994), 96.

2   International Foundation for Electoral Systems, 'Voter Turnout', 2008: http://www. electionguide.org/voter-turnout.php (accessed 10 August 2017).

3   R. Inglehart, *Culture Shift in Advanced Industrial Society* (Princeton, 1990).
     A. Blais, *To vote or not to vote? The merits and limits of rational-choice theory* (Pittsburgh, PA, 2000); M. Gray and M. Caul, 'Declining Voter Turnout in Industrialized Democracies, 1950 to 1997: The Effects of Declining Group Mobilization', *Comparative Political Studies*, vol. 33, no.9 (2000), 1091–122; B.G. Peters, *European Politics Reconsidered* (New York, 1991); S.J. Rosenstone and J.M. Hansen, *Mobilization, Participation, and Democracy in America* (New York, 1993); J. Vowles, 'Dealignment and Demobilisation? Nonvoting in New Zealand 1938–1990', *Australian Journal of Political Science*, 29 (1994), 96–114;

4   IDEA, '.Voter turnout in Western Europe since 1945: A global report', 2004, http://www. idea.int/publications/voter_turnout_weurope/upload/Full_Reprot.pdf (accessed 15 August 2017).

5   W. Hirczy, 'Explaining Near-Universal Turnout: The Case of Malta', *European Journal of Political Research,* 27 (1995), 255 –72.

6   Ibid., 258.

7   D. Fenech, 'The 2003 Maltese EU referendum and general election', http://www. informaworld.com/smpp/content~db=all~content=a714040390

8   W. Hirczy and J.C. Lane, 'Malta: STV in a two-Party System', http://www.maltadata.com (accessed 1 August 2017).

political environment, combined with a proportional representation system where a 'winner takes all political system prevails',[9] results in a situation where literally every vote counts.

Since 'voting is not compulsory', according to Franklin[10] 'unless we want to assume that Maltese citizens are uniquely civic-minded' there must be other underlying features contributing to such high turnouts. The socio-political climate and the institutional features of the electoral system indeed highlight various factors which may be useful for explaining the 'near universal' turnout in Maltese elections.[11]

In an outstanding study on electoral turnout in Malta, Hirczy identified a combination of influencing factors:

(1) intense and pervasive partisanship; (2) concentration of political power in a single elective institution; (3) highly competitive elections resulting in one-party governments despite PR; (4) maximization of the impact of a single ballot … and (5) unusually intense campaigning by individual candidates and by parties.[12]

Louth and Hill[13] also ascribed the high turnout to Malta's 'small, urbanized, and geographically-concentrated population'. The sociological environment resulting from smallness may present increased incentives to participate in the political process.[14] 'Intensified interpersonal contacts' augment one's sense of duty and present aggregate-level pressure to vote.[15] Moreover, since 'issues cannot really be "distant" … "alienation" … is not much of an issue'.[16]

Since voting is voluntary, it has been argued that the high turnout is a reflection of 'genuine high motivation of the electorate'.[17] This

9   G. Baldacchino, 'Jurisdictional Self-reliance for Small Island Territories: Considering the Partition of Cyprus', *The Round Table: Commonwealth Journal of International* Affairs, vol. 91, no. 365 (2002), 197.

10   http://www.informaworld.com/smpp/content~db=all~content=a714040390" \h

11   Hirczy.

12   Ibid., 255.

13   J. Louth and L. Hill, 'Compulsory voting in Australia: Turnout with and without it', *Australian Review of Public Affairs*, vol. 6, no.1 (2005), 28.

14   R.A. Dahl, and E.R. Tufte, *Size and Democracy* (Standford, CA, 1973).

15   W.P. Veenendaal, 'Politics and Democracy in Microstates. A Comparative Analysis of the Effects of Size on Contestation and Inclusiveness', Ph.D Thesis, Leiden University (2013), 7.

16   M.A Falzon, 'Malta has highest free voter turnout in the world', *The Sunday Times of Malta*, 15 February 2009.

17   H. Schiavone, 'Maltese MPs earn €18,000, have a day job and claim no expenses', *The Irish*

motivation may, however, be influenced by other factors apart from clear-cut notions of civic duty. It has been argued that, given the widespread grass-roots organization of the political parties, 'few would dare being seen as not voting'.[18] Another issue concerns the high stakes in Maltese elections, which 'include not only the control of government … but also the prerequisites of office and patronage benefits'.[19] Indeed, Falzon[20] suggests that the high turnout reflects self-interested motivations and thus paradoxically exhibits the Maltese electorate's inability and reluctance to display 'critical thought about politics – our laziness to produce apathy'.

These 'unusually large number of features' reinforce one another[21] by forming a mélange of low transaction and input costs, yet considerably high stakes in output rewards. Higher levels of turnout in turn increase the perception that voting is 'socially desirable'[22] and instil a stronger urge to vote.[23] Moreover, the continued renewal of the norm of civic duty may contribute to passing this enthusiasm on to new generations, possibly explaining the sustained high turnout across the years.

So, in the context of this 'near-universal' turnout, when in the 2008 parliamentary election, 93.3% of the eligible electorate turned out to vote, turnout was perceived to be unexpectedly low. The proportion of abstainers had never been so high since the election of 1971 when 92.9% turned out to vote. Turnout continued to decrease in the subsequent 2013 and 2017 parliamentary elections which respectively exhibited a turnout rate of 92.8% and 92.1%. This decline in the last three rounds of parliamentary elections was additionally accompanied by a relatively high rate of invalid voting.

Thus, juxtaposed against this normative prescription of high levels of electoral turnout, competitive party systems, and strong partisan

Times, 27 March 2010,

18   G. Baldacchino, 'Pangs of nascent nationalism from the nationless state? Euro coins and undocumented migrants in Malta since 2004', *Nations and Nationalism*, vol. 15 no.1 (2009), 153– 4.
19   Hirczy, 260.
20   Falzon.
21   Hirczy.
22   J.A. Karp. and. D. Brackington, 'Social desirability and response validity: A comparative analysis of over reporting voter turnout in five countries', *Journal of Politics*, vol. 67, no. 3 (2005), 836.
23   A. Blais, *To vote or not to vote? The merits and limits of rational-choice theory* (Pittsburgh, PA, 2000).

loyalties lies the empirical reality of an experienced turnout decline which may possibly reflect the initiation of partisan dealignment trends in Maltese society. Moreover, in line with the experienced trend in other advanced industrialized democracies, there may be reason to believe that such decline may continue to materialize, possibly with an incremental effect.

Scope and methodology

A broad objective of the study was to gather more knowledge on turnout trends and the phenomenon of electoral abstention in Malta whilst putting this knowledge within a general socio-political perspective. The study adopts a triangular framework by addressing the macro-institutional and micro-individual dimensions of abstention through discourse and aggregate data analysis of turnout trends and socio-demographics of non-voters and by means of qualitative intensive interviewing and quantitative survey research with a sample of non-voters.

The research was organized around a number of issues pertaining to the frequency, distinctiveness, causes, and implications of non-voting. The following main questions were posed: Who are the Maltese non-voters? Are they socio-demographically and socio-politically distinctive? Why are they non-voting? Can non-voting be considered as a tacit approval of the status quo, a sign of apathy and indifference? Or is it a sign of alienation: a conscious act of disconnection from the present political system and its forms of governance?

The study also sought to address the policy and the structural and electoral implications of non-voting by identifying the primary cleavages and other contextual conditions which may be contributing towards decreased turnout. It sought to establish whether, on the basis of non-voting trends, there is evidence of partisan dealignment, representing a weakening of partisan bonds and whether abstention could be linked to wider patterns of political realignments.

The disconnectors

The findings gained through the different methodologies have largely complemented one another, so that, in combination, the data provides a consolidated view of the non-voting phenomenon.

The research supports the view that, apart from the wider socio-political and cultural milieu and specific contextual electoral conditions, several demographic, institutional, and psychological variables are related to turnout.

Turnout is largely influenced by the type of election. The Maltese electorate is more likely to abstain and to utilize non-voting as a form of protest in local and European rather than in parliamentary-level elections. The analysis also suggests an element of stability in non-voting patterns of behaviour, both longitudinally and transversely, as well as in the type of non-voting for both voluntary and involuntary forms of abstention.

The analysis suggests that Malta's 'party of non-voters' is not a homogenous category but is characterized by a wide spectrum of divergent situations and traits. While each non-voting case is a unique combination of social, psychological, and political forces, rendering simple comparisons and categorisation difficult, as evident from the proposed typology (Figure 1), some broad commonalities between non-voters' dispositions emerge.

This schematic classification is based on two fundamental overarching divisions, dealing with the frequency (regular versus irregular) and rationale (voluntary versus involuntary) of abstention. By crossing both variables one identifies four discrete sub-groups of non-voting populations, representing ideological, antagonist, indifferent, and circumstantial non-voters. These categorizations can be broadly conceptualised as based on issues of principle, alienation, disengagement, and convenience.
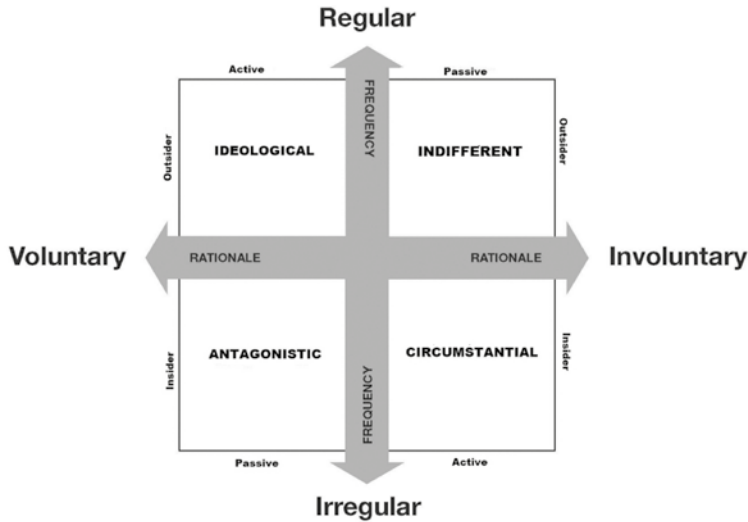
Fig 1. Non-Voting Typology

This classification suggests that several underlying attitudinal and behavioural dispositions of non-voters are inter-related. Through such dispositions as dimensions of political interest and knowledge, extent of partisan affiliation, evaluation capacity, and degree of political participation, including activism in non-electoral forms of participation, the typology further differentiates between active and passive abstainers and those located within or outside the political system (insiders and outsiders).

The local non-voting population ranges from radical environmentalists to hunters, from Roman Catholics to atheists, and from left-wing anarchists to ultra-nationalist right-wingers. Despite the fact that non-voters come from different age-groups, status, and socio-economic and political backgrounds, they are predisposed to be younger, better-educated, and cognitively mobilized, as well as more liberal and oriented towards the left of the political spectrum. Non-voters are also more likely to uphold progressive rather than conservative or moderate views and values, and are more likely to adhere to extremist rather than centralist ideologies. Non-voters also have a higher predisposition to come from mixed, floating, or politically antagonist family backgrounds.

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The results suggest that non-voting is largely a voluntary, strategic, and rational form of political expression and constitutes a form of alienation and political protest against present modes of governance. While the experiences of non-voters reveal myriad factors underlying the abstention decision, including low feelings of political efficacy, issues of inconvenience, lack of factual knowledge, and lack of interest in politics in general, the most significant factors were those associated with distrust, animosity, and cynicism towards political parties, particularly the two major ones, and general disillusionment with the party system. Indeed, many non-voters across all categories, including the 'circumstantial' category, consider themselves as apartisan and conceive abstention as a form of protest and conscientious objection.

With the exception of the 'indifferent' category, the non-voters under study tend to exhibit relatively high levels of interest in political and public affairs and uphold considered views on various social, humanitarian, and environmental issues with a good number also being actively committed towards these issues. As a result, most non-voters demonstrate relatively high levels of internal efficacy exemplified by personal insight and understanding of the political process, but relatively low rates of external efficacy, through the perception that voting is not likely to significantly impact on electoral outcomes and governance structures. High levels of internal efficacy may thus be responsible for lower perceptions of external efficacy, partially explaining non-voting amongst the cognitively mobilized.

Disconnections or reconnections?

In his 1993 postscript to the 1961 anthropological study on Maltese society, *Saints and Fireworks*, Boissevain[24] observes that 'In spite of the sweeping changes that have taken place … Malta and Gozo … are, perhaps surprisingly, basically still very much the same'.

Despite recognition that on certain issues Malta has sustained its traditional aspects, it would, however, be surprising if the economic and social changes that Malta has experienced over the last years have left the political realm untouched. Though Malta has retained its high

24   J. Boissevain, *Saints and Fireworks:Religion and Politics in Rural Malta* (Malta, 1993).

levels of electoral participation and partisan loyalties, the social and economic contexts in which the contemporary electorate thinks and acts is very different from that of previous generations. While the closely knit family system, the size of the country, and the influential role of the Church have made change happen at a much slower rate,[25] resulting in a situation where Malta often lags behind European development both in time and momentum,[26] 'national identity is being reshaped in a new international secular context'. [27]

Similarly, the modernization of Maltese society over the past decades may be starting to transform the political alliance of the electorate. The Maltese seem to have become more tolerant towards different political opinions and no longer 'extremely emotional'[28] in demonstrating their political views, as attested by decreased overt incidents of political violence.

Although elections, particularly parliamentary ones, are still characterized by considerably high turnouts, an increasing segment of the population seems to be expressing low levels of trust and valence in the political and party systems. Thus, Malta's political culture characterized by the 'parochial nature of party politics',[29] 'sectarian violence and mismanagement of public sector resources may have led to, or been a result of, widespread disenchantment with the legitimacy of the local state'.[30] Moreover, despite their hegemonic influence, the parties' ideological and strategic convergence towards the 'reformist centre-ground'[31] may lead to disaffection among those who do not endorse this broad, moderate stance. This homogenization of issues may as a result lead to the alienation of certain parts of the electorate, particularly those who may feel strongly about a particular issue and perceive the two parties as having the same converging agenda.

25   S. O'Reilly Mizzi, 'Gossip. A means of social control', in R.G. Sultana and G. Baldacchino (eds.), *Maltese Society. A Sociological inquiry* (Malta, 1994), 369–82.
26   G. Baldacchino, 'The dynamics of political restructuring in Western Europe and Malta', *Hyphen*, vol. 7 (1989), 99–116.
27   A. Abela, 'Shaping a National Identity. Malta in the European Union', *International Journal of Sociology*, vol. 35, no. 4 (2005), 24.
28   E. Micallef, 'Power to the People', *Times of Malta*, 8 February 2008,
29   J. Friggieri, 'The Philosopher's drone', *MaltaToday,* 7 September 2003.
30   G.Baldacchino, 'The contribution of social capital to economic growth: lessons from island jurisdictions', *The Round Table: Commonwealth Journal of International Affairs*, vol. 94, no. 378 (2005), 36.
31   M. Cini, *Party politics and the European question: The case of Malta* (Wisconsin, 2001), 17.

Expanding educational levels and increased access to political information may be leading to a process of cognitive mobilization that enhances the political skills and resources of the electorate. A greater sector of the electorate may be approaching politics with a greater ability to judge political affairs independently of habitual loyalties passed down from their family and class background. This rationalization process, shifting the basis of electoral choice from ascribed emotional attachments to ideological and policy assessment, indicates that the 'voter-party relationship is beginning to change',[32] resulting in weakening partisan allegiances, greater electoral volatility, and restructuring of traditional party loyalties. Apart from voluntary forms of abstention, these processes seem to be reflected through decreased class-voting, an increase in protest-party voting, and the expansion of floating and cross-party voting.

Whereas historically, Maltese society was characterized by a deep class cleavage, where the working class generally supported the Labour Party and the middle and upper-classes supported the more conservative Nationalist Party, in these last years this cleavage seems to have become a less marked feature of the socio-electoral landscape. As a result, whilst still of relevance, the traditional class structure has decreased in political and electoral salience. Apart from changes in the class structure through the growth of the middle-class strata, this phenomenon may possibly be fuelled by the increased policy convergence of the two major parties. An increasing number of voters, especially those of younger generations, may not be internalizing their families and class political background. Indeed, it is recognised that 'a larger sector of the electorate have cast away their chains with their voting traditions or the voting traditions of their families and are making their own assessment and their own decisions on the way they will cast their vote'.[33]

This decline in class-based voting is accompanied by increased notions of the voter as consumer. Electors are seen to be progressively inclined to make their electoral choices on the evaluation of the policy packages offered by contesting parties.[34] Cross-party voting may also be on the increase, with the result that the political system may be steadily

32   Baldacchino, 'The dynamics of political restructuring' 102.
33   J. Dalli, 'An Intelligent Vote', *Maltatoday,* 17 February 2008,
34   M. Wattenberg, 'Turnout Decline in the U.S. and other Advanced Industrial Democracies', *Center for the Study of Democracy,* Irvine, 1998.

'dealing with a polyphonic electorate, voters able to speak with more than one voice, using their vote to manage a multiple identity that cannot be satisfied with an either/or logic'.[35] In view of the almost equally divided allegiance of the traditional Maltese electorate towards the two major parties, these non-partisan voting patterns are highly influential in shifting the balance of power of electoral outcomes, as also evident from the outcome of the 2013 general election. It is often these non-mainstream voters and those 'undecided who finally decide'.[36] Indeed, such developments indicate that 'In today's Malta, even the most die-hard of political party supporters ... may choose to vote with their feet, if they feel that "their" party is no longer delivering the goods.'[37]

Weakening party loyalties arising from cognitive mobilization processes may be shifting the nature of Maltese politics from long-term habitual loyalties to electoral choices based on rational assessment of parties and candidates. Provided that such decisions are endorsed on constructive criteria, rather than on purely egoistical or patronage driven interests, such trends present a positive challenge to present partisan structures since

It shows that elections are not an easy ride. The thought that voters do have brains exerts more pressure on our politicians who know it for a fact that they will be judged on their innovative proposals and their futuristic vision for the country.[38]

The decreasing trust in partisan and institutional forms of politics, in combination with a plausible rising trend in both non-traditional electoral participation (as evident in the shift made through floating voting in the 2013 election and the election of third-party candidates in the 2017 election) and non-electoral forms of participation, as evident from the growth of civil society activism, point to strong underlying currents of dealignment as well as evidence of realignment. Whereas it is surely not the case that party attachments are altogether wavering, the devolution

35   R. Fsadni, 'The polyphonic ballot', *Times of Malta,* 13 March 2008,
36   E. Saliba, http://www.timesofmalta.com/articles/view/20080208/opinion/power-of-the-people.195441;http://www.timesofmalta.com/articles/view/20070228/letters/survey-results-interpretation-1.25157
37   http://www.timesofmalta.com/articles/view/20080615/interview/exit-stage-right.212639; http://www.timesofmalta.com/articles/view/20070330/opinion/non-partisan-politics.21950.
38   E. Micallef, 'Power to the People', *Times of Malta*, 8 February 2008.

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and demobilization process of Maltese politics may be following the same trends as those in other European countries with a time-lag effect.

The prognosis of Maltese society presents a plausible increase in a more educated and liberal electorate, more receptive to diverse political views and life-styles. It also presents increased access to apartisan information, factors which collectively lead to increased cognitive mobilization and other forms of rationalization processes. Maltese society is also presenting increased opportunities for citizens to participate in non-electoral forms of participation. Apart from generating circumstantial abstention, increased opportunities for mobility may also enhance cognitive mobilization processes, resulting in a more broad-minded electorate which is simultaneously more amenable to different political orientations and more critical of an insular style of politics. People living abroad may also be less interested and attached to local politics and thus possibly less emotionally and pragmatically involved on a political level. Processes of modernization may correspondingly lead to an increase in indifferent forms of abstention. As life-style patterns and the pace of life become more hectic and demanding, people may have less time to dedicate to political matters. Furthermore, increased individualism may be resulting in a loss of sense of community with less incentive to participate in society's running on a political sphere.

The analysis suggests that the dynamics underlying these attitudinal and behavioural trends reflect generational differences. If so, processes of generational replacement will eventually produce an electorate which is more rational and cognitively mobilized as well as more distrustful and possibly more indifferent towards institutional, especially partisan forms of politics. Such dealignment-realignment process is thus considered as a long-term secular process taking place through changes in the attitudes and behaviour of the electorate over time. As there is a 'heavy habitual component to voting',[39] similarly non-voting presents an element of stability and habitual support. Indeed, those coming from floating, mixed, or antagonist backgrounds demonstrate a high propensity towards non-voting behaviour whilst those non-voting in one election are more likely to abstain in subsequent elections. In mitigating against the hegemony of partisan voting, such backgrounds are more likely to regard abstention as another electoral choice. The increased

39   Hirczy, 142.

vogue in rational non-partisan voting patterns opens new avenues for abstention since such innovating trends should make it is easier for non-voting to be seen as one of several viable electoral options. Similarly, engagement in processes of direct democracy may in turn relate indirect attitudinal and behavioural effects that mitigate against the dogma of electoral participation.

In a context where 'near universal' turnout fuelled by patronage bi-partisan driven loyalties is the order of the day, non-voting represents both a rejection of partisan politics as well as a potential transformation for realignment in terms of new political structures and processes. In its neutral, passive, persistent form, non-voting presents an interlocutor 'reformist' symbolic gesture of deligitimization, a silent refusal of the rules and terms that shape political meanings and identities. Yet in its more active, assertive, empowering, yet transitory form, it carries a loaded revolutionary call for realignment.

Maltese society appears to be heading towards a more dynamic shifting of balance between dealignment and realignment forces, leading to a more vibrant and multi-layered political culture. Through its multi-faceted capacity, non-voting presents both evidence of partisan dealignment, as well as of secular realignment trends. Through generational replacement, non-voting and other underlying trends of devolution and disconnections from traditional voting patterns of behaviour could lead to a progressive transformative shift towards a realignment of the political sphere, through calls for more responsive and accountable democratic structures and processes. As a result, given their repercussions on the political sphere, these trends in de/re-alignment may bode well for the quality of Maltese democracy, since they may represent a more active citizenry which critically appraises rather than passively accepts the inadequacy and incongruity of Maltese politics. Thus, as the

conformist of simple 'ritual' support … can also collaborate to maintain structures without any capacity for self-criticism … the non-integration in the present system of government of some critical abstentionists could imply a certain hope for a future more influenced by the ecologist movement, by broadening areas of political organisations … and even by the glimmer of a world scale government.[40]

40   R. Virós Ma, 'A Qualitative Approach to Electoral Abstention', *Working Paper*, no. 98 (Barcelona, 1994), 5.

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Connecting Authentic Educational Leaders and Their Followers

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Abstract: The success of organizations, including those of an educational nature, is inextricably intertwined with their leadership. The economic and financial woes which plagued the world in recent years have triggered the need for a new generation of leaders. There are various leadership models and styles which may be adopted, including authentic leadership. This may be considered as an emerging leadership model which, however, is quickly gathering momentum. It is a style of leadership which can contribute significantly to the success of an organization, leading to improved work-engagement and performance. One of the reasons for this is that it offers a connection between the leader and the followers, that is, those who are being led. It is not easy to define authentic leadership; very often it is defined as promoting a positive ethical climate, fostering self-awareness, an internalised moral perspective, balanced processing, and relational transparency (Walumbwa *et al*., 2008). This paper explores and summarizes the main characteristics and traits of authentic leaders, provides a short critique, as well as recommends how authentic leadership can be put into practice.

Keywords: authentic leadership, leadership, organizational success

As a result of the collapse in the financial markets and the economic woes we experienced a few years ago, there is a growing concern amongst the general public at the way organizations, including educational institutions, are being managed and led. It seems that at challenging times, leadership actually becomes even more difficult.[1] These concerns have fuelled a drive for an alternative form of

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1   B.J. Avolio and W.L. Gardner, 'Authentic leadership development: Getting to the root of positive forms of leadership', *The Leadership Quarterly*, Vol. 16 (2005), 316.

leadership that is more 'value-driven, ethical, credible, compassionate, and people-centred'.[2]

The main factors that contributed towards these troubles were leaders focusing more on their self rather than on their service; the priorization of profits over the public good; the forging of superficial relationships; and putting too much emphasis on efficiency without giving due consideration to the human cost.[3]

The role and importance of the leader within an organization cannot be undervalued since we often 'equate the success of an organization with the capabilities and character of the leader at the helm'.[4] This applies equally well to educational institutions as, 'in most countries, it is the principal who is regarded as the key educational leader and the one person in a school who has the most opportunity to exercise leadership'. Organizations have a responsibility to provide space and opportunities for employees to grow and develop as prospective leaders.

'Today's leader, as that of tomorrow, has to display enthusiasm, passion and inspiration to get others to high levels of performance'.[5] Such leadership is considered as 'a personal thing'[6] which 'comprises three important dimensions – one's heart, head, and hand.'[7] Leadership of this type becomes a 'quest to do the right thing' by 'people who are committed to a cause and strongly believe in what they are doing and where they are going'.[8]

One of the main challenges for educational leaders is to make the best use of the managerial skills in an ethical and moral way so that schools are run effectively and efficiently. This puts further pressure on the attributes of leaders who need to hold principles, values, and objectives which they can communicate in order to motivate and inspire others. In view of this, there is a growing need for a new generation of leaders who

2   R. Smith, N. Bhindi, J. Hansen, D. Riley, and J. Rall, 'Questioning the notion of "authentic" leadership in education: The perspectives of "followers"', Paper presented at the *Changing Climates: Education for Sustainable Futures*, Brisbane (2008), 2.

3   Ibid., 3.

4   R.C. Wallace, D.E. Engel, and J.E. Mooney, *The learning school: a guide to vision-based leadership* (Thousand Oaks, Ca, 1997), 79.

5   C. Bezzina, 'The making of secondary school principals: some perspectives from the island of Malta', *International Studies in Educational Administration*, Vol. 20, No. 2 (2002), 3.

6   T.J. Sergiovanni, *The Principalship: A reflective practice perspective* (USA, 2001), 343.

7   Ibid., 343.

8   Bezzina, 4.

hold such qualities and may be described as authentic leaders. This new generation are crucial to good leadership[9] and may be considered as key to 'the success factor of today's progressive organizations'.[10]

In this context, this paper aims to first explore how authentic leadership is defined; it will then identify the main traits of such leaders that connect them with their followers; and finally it will recommend ways how such connections may be put into practice. The term 'follower' here is used as a collective term to describe those who are being led.

What constitutes authentic leadership?

Dictionaries define the word 'authentic' as 'having a known origin', 'being what it claims to be', and 'genuine', amongst other similar versions. However, it is not easy to give a simple and straightforward definition of what constitutes an authentic leader, as the concept incorporates various attributes. In spite of this, one can detect when something is authentic or not.[11]

'Authentic leadership is a relatively new and evolving model that emerged in the late 1990s and early 2000s from within transformational leadership.'[12] The 'literature related to authenticity has its conceptual roots in philosophy, humanistic psychology, and positive psychology'.[13] The concept of 'authenticity' was already referred to by Chester Barnard in 1938[14] and historically, it can be traced to ancient Greece, based on the concept to 'know thyself' and 'thy true self'.

Although relatively new as a leadership style, it is quickly gaining the interest of both researchers and practitioners in the field because it can potentially have an impact that extends to all members of an

9   L. Lombard, K. April, and K. Peters, 'Sustainability and authentic leadership: stumbling blocks and enablers', *Crown Research in Education*, Vol. 2, No. 2 (2012), 74–84, 2.
10   V. Dimovski, E. Marko, S. Penger, M. Maric, and C. Matej, *Developing a new measure of authentic leadership* (2017) 1, https://editorialexpress.com/cgi-bin/conference/download. cgi?db_name=EBR2011&paper_id=37; https://editorialexpress.com/cgi- (accessed 20 August 2017) 1.
11   Ibid., 1.
12   T.J. Jourian, 'Trans*Forming Authentic Leadership: A Conceptual Framework', *Journal of Critical Thought and Praxis*, Vol. 2, No. 2 (2014), 1.
13   Lombard, April, and Peters, 2.
14   A. Kliuchnikov, 'Leader's authenticity influence on followers' organizational commitment', *Emerging Leadership Journal*, Vol. 4, No. 1 (2011), 70.

organization.[15] Authenticity can be looked at from different perspectives. In the literature, one can identify three main types of definitions for authentic leadership based on an intrapersonal perspective; on an interpersonal perspective; or on a developmental perspective. These three perspectives are not mutually exclusive and there are links and overlaps between them.

The intrapersonal perspective views authentic leaders as natural, original, and not a copy.[16] Their authenticity is based on owning one's personal experiences such as thoughts, emotions, preferences, and beliefs, and acts in accordance with the inner thoughts and feelings.[17] In effect, their authenticity carries the meaning and depth of the person.[18]

The interpersonal perspective views authentic leadership as relational created by leaders and followers together. It involves a reciprocal process whereby both leader and follower affect and influence each other.

The developmental perspective looks at authentic leadership as a sort of journey spread over time, involving a process of nurturing and growth. The authentic leader develops over a lifetime, very often, the quest for authenticity being triggered off by major life events.

One of the most referred to definitions, based on the latter perspective is that given by Walumbwa *et al.* which views authentic leadership as 'a pattern of leader behaviour that draws upon and promotes both positive psychological capacities and a positive ethical climate, to foster greater self-awareness, an internalized moral perspective, balanced processing of information, and relational transparency on the part of leaders working with followers, fostering positive self-development'.[19]

According to Dimovski *et al.*, 'authentic leaders act in accordance with deep personal values and convictions, to build credibility and win the respect and trust of followers by encouraging diverse viewpoints and building networks of collaborative relationships with followers,

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15   V. Dimovski, F. Marko, S. Penger, M. Maric, and C. Matej, *Developing a new measure of authentic leadership* (2017),1, https://editorialexpress.com/cgi-bin/conference/download. cgi?db_name=EBR2011&paper_id=37 (accessed 20 August 2017).

16   B. Shamir and G. Eilam, 'What's your story? A life-stories approach to authentic leadership development', *The Leadership Quarterly*, Vol. 16, No. 3 (2005), 397.

17   Avolio and Gardner, 320.

18   Dimovski, Marko, Penger, Maric, and Matej, 2

19   F.O. Walumbwa, B.J. Avolio, W.L. Gardner, T.S. Wernsing, and S.J. Peterson, 'Authentic leadership: Developing and validation of a theory-based measure', *Journal of Management*, Vol. 34, No. 1 (2008), 94.

and thereby lead in a manner that followers recognize as authentic'.[20] This definition builds on the work of Walumbwa *et al*. but goes further to highlight the connection between the leader and the followers. To be considered as authentic, a leader must embrace all these characteristics *in totum*.

How authentic leaders connect with their followers

Previously, reference was made to the importance of the leaders in organizations because they do make a difference. For example, teachers want leaders who understand their difficulties at the workplace. That is teachers, do not want any kind of leader, but one who understands what they are going through and supports them accordingly.

Authentic leaders potentially do not only have these attributes which are sought after by followers, but in addition, according Dimovski *et al.*, they can become role models for them, such that their traits cascade downwards within an organization so they become part of the organizational culture.[21] Hence authenticity does not only remain in the domain of the leader but becomes diffused throughout the organization.

In view of the aims of this paper, an extensive literature review was carried out to elicit the main attributes put forward by researchers in the field to show how authentic leaders connect with their followers. These attributes were grouped under the following six headings:

By being positive
Very often, authentic leaders tend to adopt an overall positive approach in their leadership style.[22] Undoubtedly, one of the main advantages of this positive style of leadership is that it reinforces the trust of, and enhances the connection between, the followers and their leader. Authenticity in fact may be considered as the 'root construct to any positive leadership'.[23]

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20   V. Dimovski, F. Marko, M. Maric, M. Uhan, M. Jovanovic, and M. Janezic, 'Authentic leadership to the future', *Skola Biznisa*, Vol. 1 (2012), 4.
21   Dimovski, Marko, Maric, Uhan, Jovanovic, and Janezic, 4.
22   M. Cerne, M. Jaklic,, and M. Skerlavaj, 'Authentic leadership, creativity, and innovation: A multilevel perspective', *Leadership*, Vol. 9, No. 1 (2013), 64.
23   Kliuchnikov, 71.

By being true to themselves

Authentic leaders are aware of their own beliefs, personal emotions, and motives and, according to Jourian, they should base their leadership on them.[24] 'Knowing one-self also includes knowing and acknowledging weaknesses.'[25]

Because of these traits, authentic leaders are in a better position to share their own values, motives, and goals with their followers.[26] Followers can perceive these traits in their leader and connect with them through a process known as 'positive modelling'. This is confirmed by Avolio and Gardner who found that 'through increased self-awareness, self-regulation, and positive modelling, authentic leaders foster the development of authenticity in followers'.[27]

By being moral and ethical

When leaders are entrusted with power, they also assume special ethical and moral obligations[28] to serve their followers. This applies even more so in the caring professions, such as in education.

Authentic leaders primarily focus on doing what is right and worthwhile, and base their actions and behaviours on their internalised morals and values.[29] Such leaders achieve their authenticity by 'balancing values and actions'.[30]

In spite of the difficulties involved in decision making, for Avolio and Gardner the moral convictions of leaders remain the prime motivators rather than status, honour or other personal benefits.[31] The fact that they are driven by doing what is right has the additional benefit of keeping their personal and self-aggrandizement in check.[32]

This grounding in moral and ethical standards, can lead to the 'transformation of oneself and others to a higher moral and ethical

24   Jourian,1.
25   Lombard, April, and Peters, 3.
26   Cerne, Jaklic, and Skerlavaj, 65.
27   Avolio and Gardner, 326.
28   D.W. Wilson, 'Applied virtue ethics: a philosophical perspective on authentic school leadership', Paper submitted for The Annual PESGB Conference, New College, Oxford, 2008, 2.
29   Jourian, 15.
30   Lombard, April, and Peters, 3.
31   Avolio and Gardner, 321.
32   B.M. Bass and P. Steidlmeier, 'Ethics, character and authentic transformational leadership behaviour', *The Leadership Quarterly*, Vol. 10, No. 2 (1999), 211.

purpose'.[33] In other words, it is not only the leader who is ethical and moral, but also the followers.

By taking a balanced approach

Decision-making is a regular and important role for any leader, irrespective of the leadership style adopted. The difference between the various styles is how one arrives at a decision. Authentic leaders are capable of looking at the various sides of an issue and to analyse the information available before deciding,[34] a process which is referred to as balanced processing. Furthermore, they do so while taking into consideration their own biases.[35]

Hence, although authentic leaders still lead from their own personal point of view, very often even making use of life stories to strengthen their arguments, they are able to consider multiple sides and perspectives of an issue and to assess information in a relatively balanced manner.[36]

By being transparent

As previously indicated, authentic leaders are guided in their role by their personal values and convictions nonetheless, they are still aware of their followers' needs and expectations. This is referred to as relational transparency. The connection between leaders and followers is always strong to the extent that Hannah *et al*.[37], describe authentic leaders as highly altruistic.

Furthermore, authentic leaders are open and honest in their communication and relationship with others[38] which makes them more approachable, transparent, and trust worthy. As a result, followers acquire a more central role within the organization.

By motivating and empowering

The main concern of an authentic leader is to serve and empower people rather than on power, prestige, or fulfilment of personal ego.[39] For the

33   Smith, Bhindi, Hansen, Riley, and Rall, 7.
34   Kliuchnikov, 72.
35   Jourian, 2.
36   Avolio and Gardner, 318.
37   ST. Hannah, B. Lester, and G.R. Vogelgesang, 'Moral leadership: Explicating the moral component of authentic leadership', in Gardner, Avolio, and Walumbwa (eds.), 50.
38   Jourian, 2.
39   B. George, 'Becoming an authentic leader', *Innovative Leader*, Vol. 13, No. 1 (2004), 592.

benefit of any organization, leaders need to identify the talents and strengths of employees and to position them so that they make best use of them.[40] They do not attempt to transform their followers according to their desires but rather act towards positive thinking and building self-confidence.[41] In this sense, empowerment of followers is conceptualized as a psychological state that encompasses four cognitions: competence, impact, meaningfulness, and self-determination.[42]

Authentic leaders are able to 'resonate with and respond to, setting a tone within an organization so people are able to find greater meaning and satisfaction in what they are doing'.[43] In this way, an emotional bond is formed between employees and the organization which, according to Kliuchnikov,[44] leads to a higher degree of commitment.

Shortcomings of the authentic leadership approach

Although without any doubt, the authentic leadership approach has many advantages, like all other models of leadership, it also has its shortcomings. The following are the main concerns and criticism that is levelled towards this model which should be taken into consideration when adopting or evaluating such a leadership approach.

Difficult to define

As previously indicated, it is not easy to give a simple and straightforward definition of authentic leadership. In fact, 'a definition of authentic leadership has proved elusive and what is meant by it may not be clear'.[45]

Authenticity may actually mean different things to different people in different circumstances.[46] What may appear as genuine to someone, may not be so to another.

40   L.M. Schwartz, 'Encouraging Ethical & Authentic Leadership: An interview with Nance Lucas', *Spirituality in Higher Education Newsletter*, Vol. 4, No. 3 (2008), 2.

41   Cerne, Jaklic, and Skerlava, 67.

42   F.O. Walumbwa, P. Wang, H. Wang, J. Schaubroeck, and B.J. Avolio, 'Psychological processes linking authentic leadership to follower behaviours', *The Leadership Quarterly*, Vol. 21 (2010), 905.

43   Schwartz, 5.

44   Kliuchnikov, 4. 473.

45   Smith, Bhindi, Hansen, Riley, and Rall, 6.

46   J. Mitchell (ed.), *Authentic, sustainable leadership in VET* (New South Wales, 2008), 6.

Viewed as idealistic

For some, the term 'authentic leadership' is problematic in itself as it conjures a divisive idea between this type of leadership and all others which are considered as non-authentic. While reviewing the literature, one may get the feeling that this type of leadership is pictured as too ideal, as if it is 'the' leadership style to adopt. Without ignoring the many benefits and advantages that it has, one should be aware that it too has its limitations.

Too much emphasis on self-awareness

A lot of emphasis is given to self-awareness in this leadership style which is very often depicted as a given construct. 'Self-awareness, much like identity, cannot be a fixed construct, but is rather fluid, evolving, and socially constructed.'[47] This lack of context or identity when discussing self-awareness may be viewed as a weakness of authentic leadership theory.[48] Authentic leaders are open about who they are to others, and this makes them vulnerable with respect to the challenges they faced or are currently facing.

The extent of authenticity

There exists a real dilemma whether authentic leaders are genuinely authentic or whether they are just perceived so by their followers.[49] It could be that the perceived traits do not necessarily correspond with the natural temperament of the individual and therefore cannot be considered as authentic.[50] Hence, authenticity may not be viewed as 'a personal innate quality, but as a characteristic attributed to leaders by others'.[51]

There can be a difference between what is perceived by followers and the reality, of whether the leader is authentic or not. But leadership cannot be defined 'by the traits other people had used to define their

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47   S.R. Jones, Y.C. Kim, and K.C. Skendall,'(Re-)framing authenticity: Considering multiple social identities using auto ethnographic and intersectional approaches', *The Journal of Higher Education*, Vol. 83, No. 5 (2012), 711.

48   Jourian, 2.

49   Cerne, Jaklic, and Skerlavaj, 65.

50   George, 592.

51   N. Endrissat, W.R. Muller, and S. Kaudela-Baum, 'Enroute to an empirically-based understanding of authentic leadership', *European Management Journal*, Vol. 23, No. 3 (2007), 208.

leadership'.[52] In this context, 'it is necessary to distinguish between the leader's own perception of the leaders' characteristics and the perception of the leaders' characteristics by their followers'.[53] That is, it is essential to distinguish clearly between what is perceived as being authentic and what is really authentic.

Degree of transparency

The issue of relational transparency can sometimes be tricky. There are certain issues or decisions, which for the benefit of the organization, cannot be divulged or there may not be enough time to inform everyone about the reasons. In reality, for practical and very often commercial reasons, the leader cannot always be completely transparent.

Getting real: grounding authentic leadership in practice

Authenticity should not be viewed as an ideal state, completely detached from reality and difficult to practise. Authenticity boils down to the leaders being true to themselves and to 'walk their talk', in so doing setting an example for others to follow. The following are a number of practical recommendations which may be adopted by those who would like to embrace this style of leadership.

Adopting an overall positive approach

Not everything is good and positive in life. In every organization there will be instances when things go wrong, certain employees may have challenging traits, and external factors may impinge negatively on performance. Irrespective of the scenario, an authentic leader should focus more on the positive achievements of followers and of the organization as a whole rather than on flaws and negative aspects. For example, in the event that, over the years, a school starts noticing that fewer students are applying to join, rather than dwelling on the negative side of the issue, the head would focus more on the fact that the school has a history of success, that a good number of students still choose the school, and should make use of the strengths of the staff to attract more students.

52 S. Villani, *Are you sure you're the principal?: On being an authentic leader* (CA, 1999), 2.
53 Cerne, Jaklic, and Skerlavaj, 66.

Building trust

People in general prefer leaders whom they can trust as it gives them a better sense of security. Leaders cannot take it for granted that they have the trust of their followers. In fact, trust is not something that leaders gain automatically in their role but is rather earned and nurtured with time, as leaders and followers go through various experiences together. The leader works to earn trust and the followers reciprocate accordingly.

People connect with others mainly through their heart. One of the best ways for a leader to gain the trust of followers is by interacting with them, acquainting and connecting with them on a personal level. These occasions offer followers the opportunity to get to know their leaders better and to listen directly to them talking about their visions, their exciting plans for the future, as well as their concerns. Such interactions are particularly important during difficult times, when followers look up at their leaders to charter the best way forward.

Working on self-awareness

Self-awareness is a process whereby the leader makes choices or takes decisions in full cognizance of his or her personal values, beliefs, strengths, and weaknesses. The leader can therefore be open about oneself and consequently is in a better positon to help others overcome their challenges.

Although leaders gain their authenticity by being true to themselves, they do not have a licence to act, say, and do whatever they want in a spontaneous manner as the following example illustrates. During a brainstorming session with a group of teachers trying to identify the reasons for student absenteeism, one of the teachers suggests what appears to be an irrelevant reason. Even if it is actually an inappropriate reason, and the tendency for the leader, in order to be authentic, is to say so instantly, however it would be better for the leader to control his emotions and ask the teacher to elaborate on the suggestion put forward in a better way. In this way, the leader would still be authentic because he is trying to understand the follower even though the reason seems very doubtful. Furthermore, this approach will encourage others to be more forthcoming to share their own ideas and suggestions because they know they will be treated with respect.

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There is nothing supernatural or out of the ordinary about authentic leaders. As human beings, they go through all normal emotions, sometimes being sad and angry, at other times joyful, and prone to erring and making mistakes, but they always lead with their mind and heart in a way that is true to themselves.

Authentic leaders are ready to admit making mistakes and to learn from them. This important strength has a direct influence on their followers who find it easier to be open and admit their own faults and mistakes because they feel safe that their leader will understand them.

Ethical and moral decisions

When someone mentions 'ethical' and 'moral' issues, our thoughts have a tendency to soar, but for an authentic leader these words are grounded in their daily routine. An authentic leader does not change his ways according to circumstances but upholds these values at all times.

In an educational context where the realities are prone to shift due to various factors including changes in the social and cultural fabric of society, leaders need to make use of their moral compass to guide them in their decisions, especially when faced with ethical dilemmas. These dilemmas should not arise because of the need to choose between what is 'right' and 'wrong', but to choose between two 'rights'.

For example, in the event of scarce financial resources, a dilemma can arise to choose to which of two science departments funds should be allocated if both request to upgrade their facilities.

This adherence to high ethical standards and moral code of conduct in decisions and actions taken by leaders has a direct bearing on followers as it contributes further to their trust and commitment.

Towards balanced processing

The ability for balanced processing may be considered another important strength of authentic leaders. The leader has to listen and evaluate the views of others. In particular, the authentic leader should seek out the views of those who are willing to express divergent views in a genuine way. The leader has to consider the feedback received, sifting and evaluating it carefully before coming to a decision for the common good. Furthermore, all this has to be done without bias which goes against human nature.

This process of listening to followers has to be a genuine process and should never be rendered into a simple lip-service exercise. If this happens, followers easily read through it and this erodes their trust. It is of great advantage to followers because they know that their points of view are heeded and given value. As a result, followers are more likely to accept, take ownership, and comply with decisions taken.

Enhancing relational transparency

An authentic leader should strive to build a healthy and open relationship with followers. The leader has to be transparent with followers, listen to their needs, while providing them with the relevant reasons and explanations for decisions or actions taken. For example, if an organization had to take a drastic decision of cutting down paid overtime for a period of time, it would be best if the reason for such a decision is clearly explained to employees. They would still feel the brunt of the decision and most probably would find it difficult to accept such a decision; however, knowing the real reason avoids unnecessary speculation and unrest.

The leader should not only share results, outcomes, and targets achieved, but more importantly the process in achieving them. An authentic leader is also expected not just to provide answers to the questions or concerns of followers, but also to be honest when no answers are forthcoming. This is another way how leaders build the trust of their followers.

Empowering and motivating

Because of their openness, their attention to building trust and their readiness to listen to followers, authentic leaders are well-positioned to empower people to do what they are best at doing. This can be done by creating structures within an organization to allow for devolution of power, so that decisions may be taken at all levels, whilst choosing suitable employees to assume responsibilities. Leadership therefore becomes an act of empowering people, resulting in increased job satisfaction and productivity.

Conclusion

There are many leadership models that can be adopted, each one with its pros and cons. The leadership style adopted within any organization, not least an educational one, has a strong bearing on how that organization functions and progresses.

An authentic leadership style should yield positive results if developed properly and authenticity does not become an end to itself.[54] It is a leadership model that has the potential to 'create a sense of meaning that gets the best out of people, drawing forth imagination and creativity'.[55]

As an emerging leadership style, it is rapidly gaining attention from both academics and practitioners. Evaluation and refinement of this model can only contribute towards developing it into a more robust style of connecting people at work together.

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54   A. Sinclair *Leadership for the disillusioned. Moving beyond myths and heroes to leading that liberates* (Australia, 2007), 138.
55   M. Kets de Vries, *The Leader on the Couch. A clinical approach to changing people and organisations* (Cornwall, 2006), 378.

Immagini dell'Eloquenza classica attraverso le figure emblematiche di Demostene, Pericle, Eschine, e Cicerone

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Riassunto: Questo studio rappresenta una sorta di viaggio nella genesi e nell'evoluzione dell'eloquenza classica a partire dai principali oratori greci quali fondamentali artefici della retorica, seguiti dagli oratori romani e in particolare dalla straordinaria figura dell'oratore latino Marco Tullio Cicerone. In seguito all'analisi degli albori dell'oratoria classica, il saggio si occupa di una delle tappe più significative della storia della retorica, quella dell'unione tra la filosofia e l'eloquenza. Dopodiché ci si sofferma sui maggiori esponenti dell'eloquenza e più specificamente sulle loro particolari caratteristiche. Apre la carrellata colui che è considerato uno dei più grandi oratori di tutti i tempi nonché uno dei padri dell'eloquenza moderna. Si tratta dell'ateniese Demostene, considerato all'epoca di Cicerone come il rètore per eccellenza. Altre fondamentali fasi della presente esplorazione inquadrano il notevole apporto di oratori quali Pericle ed Eschine. Infine, si focalizza l'attenzione sull'eccezionale e prestigioso contributo di Cicerone, mirabile sintesi di un'eloquenza particolarmente efficace e praticamente scevra della benché minima imperfezione. L'aspetto più interessante di questo saggio è che la notevole lezione di tali artefici dell'oratoria classica non solo non è caduta nel dimenticatoio, ma ci è stata tramandata fino ai nostri tempi. In effetti, l'eloquenza più moderna, oggi più comunemente nota con l'appellativo di Public Speaking, deve necessariamente e inevitabilmente fare i conti con la retorica classica. In altri termini, tale si rivelò l'efficacia dell'eloquenza classica che oggigiorno, qualsiasi genere di oratoria – politica, religiosa o di altro genere ancora – non può prescindere dal fondamentale insegnamento dei massimi rappresentanti della comunicazione ellenistica e romana.

Parole chiave: Eloquenza classica e moderna, retorica, Public Speaking, oratori greci e romani; Demostene, Pericle, Eschine, Cicerone.

Abstract: The following study analyzes in retrospect the genesis as well as the evolution of classical eloquence starting from the main Greek orators as fathers of rhetoric, followed by Roman orators and in particular by the remarkable figure of Marcus Tullius Cicero. After a detailed analysis of the dawn of classical oratory, the paper deals with one of the most significant stages of the history of rhetoric, namely, the correlation between philosophy and eloquence. Afterwards, the study focuses on the major exponents of eloquence and more specifically on their particular characteristics. Such an overview begins with the Athenian Demosthenes, considered as one of the greatest orators of all times as well as one of the forefathers of modern eloquence and reputed, during the age of Cicero, to be the rhetorician par excellence. Other important masters of classical eloquence included in this analysis are Pericles, a prominent and influential Greek statesman, orator and general of Athens during the Golden Age, and Aeschines, a Greek statesman and one of the ten Attic orators. Finally the study analyzes the outstanding and prestigious contribution by Cicero, whose eloquence constitutes a notable synthesis of the best possible model of persuasive communication. The most interesting aspect of this research is that the remarkable example by the outstanding masters of classical eloquence is, nowadays, still very much held in high esteem. As a matter of fact, modern eloquence, better known as Public speaking, continues to regard classical rhetoric as a basic point of reference. In other words, classical eloquence was so much effective to the extent that today, all kinds of oratory, either political or religious or of any other genre, cannot put aside the fundamental teachings of the major exponents of Hellenistic and Roman oratory.

Come è ben noto, i primi artefici delle tecniche retoriche furono, in Occidente, i Greci (specie da Aristotele in avanti). In effetti, il regime democratico ateniese esigeva che i cittadini padroneggiassero l'arte del discorso in quanto solo mediante i discorsi potevano partecipare alla vita politica ed avere il diritto di pronunciarsi nei tribunali. Dopodiché i Romani ripresero questo monumentale sapere e lo sistematizzarono in maniera simile col preciso scopo di perfezionarlo.

I Romani, sulla falsariga dei Greci, già erano ben consapevoli che una comunicazione efficace si basa su precisi dettagli e su specifiche regole che oggi definiremmo verbali e paraverbali, come l'intonazione della voce e il cambiamento di tono, come pure su determinate regole non verbali, tra cui l'abbigliamento, lo sguardo, i movimenti, la vicinanza,

la capacità di coinvolgimento e di suscitare risate, serietà e vari stati d'animo. E comprendevano che le parti paraverbali e non verbali hanno addirittura più importanza dello stesso messaggio. Lezione, questa, totalmente assorbita dalla modernità e dal Novecento e tramandata fino ai nostri giorni.[1] In effetti, componente fondamentale dell'eloquenza è ancora oggi il linguaggio del corpo in tutte le sue molteplici sfaccettature. Tale è la sua importanza che ha il potere di esaltare e di rendere più efficace il discorso o, viceversa, di comunicare l'esatto contrario dello stesso discorso attraverso una serie di messaggi contraddittori tra comunicazione verbale e non verbale. Pertanto una buona eloquenza richiede ambedue le forme di comunicazione, nel senso che l'oratoria, studiata e preparata nei minimi dettagli, deve non solo apparire naturale e autentica, ma ha bisogno di essere accompagnata da un congeniale linguaggio del corpo tale da conferire maggiore autenticità e credibilità.

Quanto al sistema della retorica classica, essa ebbe subito lo scopo di classificare i vari elementi che costituiscono l'arte della persuasione, organizzandoli in una struttura ben precisa. La prima e più importante opera in cui viene portato avanti tale progetto è la *Retorica* di Aristotele, che influenzò tutti i rètori delle epoche successive, fino al XIX secolo. In epoca romana il sistema aristotelico fu ripreso da Cicerone e Quintiliano, i quali lo svilupparono ulteriormente senza però modificarlo nella sostanza.

La *Rhetorica ad Herennium*, il più antico trattato di retorica in latino di ignoto autore, riprendendo e ampliando le dottrine di Aristotele e Crisippo, distingue ben cinque fasi nella stesura di un'orazione, coincidenti con altrettante parti di cui si compone il sistema della retorica, vale a dire, *inventio*, ricerca, cioè ricercare le idee e gli argomenti per svolgere la tesi prefissata, rifacendosi a *tópoi* codificati; *dispositio*, ovvero disposizione, cioè organizzare argomenti ed ornamenti nel discorso; *elocutio*, linguaggio, o meglio, l'espressione stilistica delle idee, con la scelta di un lessico appropriato e di artifici retorici; *memoria*, cioè come memorizzare il discorso e ricordare le posizioni avversarie per controbatterle; *actio*, recitazione, ovvero declamazione del discorso modulando la voce e ricorrendo alla gestualità.[2]

1   Cfr. M. Fumaroli, *L'età dell'eloquenza* (Milano, 2002); G. Bottiroli, *Retorica* (Torino, 1993); U. Eco, *The Role of the Reader. Explorations in the Semiotics of Texts* (Bloomington, 1995); H. Lausberg, *Elementi di retorica* (Bologna, 1969).
2   Cfr. E. Tesauro, *Il cannocchiale aristotelico, o sia idea dell'arguta et ingeniosa elocutione*

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Gli albori dell'oratoria classica

Gli antichi conobbero solo ed esclusivamente l'eloquenza giudiziaria e politica. L'eloquenza morale comparve solo attraverso l'oratoria sacra. Tra i massimi artefici dell'eloquenza classica si stagliano, da una parte Demostene, dall'altra Cicerone: sia l'uno sia l'altro non fanno che accendere le passioni sul tumulto e sulla perturbazione che eccitano nei cuori.

La cosiddetta eloquenza del pergamo, ovvero l'eloquenza sacra, si impegna a convincere l'uditorio combattendo i movimenti dell'animo. Tale eloquenza vuole farsi ascoltare agitando e sconvolgendo le molteplici passioni umane.

Quanto all'eloquenza del foro, sia civile sia criminale, anch'essa presenta i suoi principi, le sue caratteristiche, le proprie fisionomie. L'eloquenza civile deve limitarsi al solo convincimento; ma l'eloquenza criminale, oltre alla convizione, può anche far uso della mozione degli affetti. Quando si tratta di apprezzare la moralità delle azioni, di calcolare il torto, l'ingiuria, il danno, di determinarne il grado di iniquità o di malizia, di decidere se tali azioni siano degne, dinnanzi alla legge, di severità o di indulgenza, di castigo o di perdono; allora è permesso all'oratore di parlare al cuore col linguaggio del cuore, di eccitare la compassione o l'indulgenza; di far servire la debolezza di scusa alla debolezza medesima, e l'attrattiva naturale di una dolce passione di scusa alle sue condiscendenze; ed al contrario di presentare i fatti odiosi in tutto l'orrore che li caratterizzi; di manifestare i raggiri dell'artificio e della menzogna; di dipingere senza riserva l'usurpazione e la frode, l'anima di un furbo smascherato, o di uno scellerato confuso. L'eloquenza patetica può anche aver luogo quando l'incertezza del diritto lascia per così dire in equilibrio la bilancia della giustizia, la quale si vorrebbe inclinata da quella parte, che naturalmente merita maggior favore.

Lo stile che conviene all'eloquenza del foro, è lo stile chiaro, elegante, preciso. L'eloquenza civile non vuole che gli ornamenti semplici e moderati; la criminale esige una locuzione più maestosa, più animata e più energica, si veste di figure rigorose e toccanti secondo

che serve a tutta l'arte oratoria, lapidaria et simbolica, esaminata co' principij del divino Aristotele (Torino, 1670).

il vario interesse che sapranno ispirare i soggetti, e in determinate circostanze richiede anche uno stile ora tenero, ora patetico.

Anche se in genere si dovrebbe evitare la prolissità, in alcuni casi, proprio tale caratteristica si rivela utile a rendere la comunicativa particolarmente efficace, consentendo all'oratore di sortire l'effetto desiderato. Plinio il giovane, in una delle sue lettere a Cornelio Tacito, esamina la questione, se nell'eloquenza del foro la brevità sia preferibile all'abbondanza, e si dichiara per quest'ultima.[3] Ciò giustifica l'abbondanza discreta, ma certamente non la profusione e l'inesausta loquacità.

Il primo attributo dell'eloquenza come pure il più essenziale, è certamente l'aria di verità che deve trasparire sia dal contenuto (cioè da ogni parola adoperata) sia dalla forma (cioè dallo stile, dal tono nonché dal ritmo del discorso). In effetti, la comunicazione non può rivelarsi persuasiva se non comparisca del tutto naturale ed autentica.

Unione della filosofia e dell'eloquenza

Invano l'oratore si lusinga di avere il talento di persuadere gli uomini se egli non acquista quello di conoscerli.

Lo studio della morale e quello dell'eloquenza sono nati nel medesimo tempo, e la loro unione è così antica nel mondo come quella del pensiero e della parola.

Una volta non si separavano queste due scienze che per loro natura sono inseparabili: il filosofo e l'oratore possedevano in comune l'impero della sapienza: essi tenevano un felice commercio, una perfetta intelligenza tra l'arte di ben pensare e quella di ben parlare. Se vi era qualche differenza, era tutta a vantaggio dell'eloquenza: il filosofo si contentava di convincere, l'oratore studiava di persuadere. L'uno supponeva i propri uditori attenti, docili, favorevoli, l'altro sapeva loro ispirare l'attenzione, la docilità, la benevolenza. L'autorità dei costumi, la severità del discorso, l'esatto rigore del ragionamento, facevano ammirare il filosofo: la dolcezza dello spirito, naturale o studiata, le grazie della parola, il talento dell'immaginazione, facevano amare l'oratore.

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3   Cfr. *Lettere di Plinio il giovane a Tacito sull'eruzione del Vesuvio*, a cura e con traduzione di Francesco Paolo Maulucci Vivolo (Foggia, 1994).

Vale, a questo punto, soffermarsi su alcuni dei maggiori esponenti dell'oratoria classica, la cui maestrìa rappresenta un modello ineccepibile nonché un importante punto di riferimento anche per l'eloquenza moderna.

Demostene (384 a. C. – 322 a. C.)

Notevole politico e oratore ateniese. Partecipò alla vita pubblica di Atene, dedicandosi alla difesa delle libertà democratiche contro l'espansionismo di Filippo II di Macedonia attraverso un'intensa attività oratoria[4] come pure diplomatico-militare in relazione alla promozione di leghe fra le città greche. Al tempo di Cicerone fu considerato il rètore per eccellenza. Studiato e commentato da vari storici, ben presto risaltò la sua impressionante capacità di infondere la passione nel discorso, attraverso una struttura tecnica dell'oratoria che sfocia in purissima euritmia.

La viva ambizione che mostrò Demostene di divenire eccellente nell'arte del dire, gli infruttuosi suoi primi tentativi, la sua costante perseveranza nel superare tutti gli ostacoli, tutte queste particolarità che apprendiamo dal grande pensatore ed erudito greco Plutarco, devono molto animare coloro che studiano l'eloquenza. Fu proprio lo stesso Demostene, secondo il rètore latino Quintiliano,[5] la legge dell'orazione, alternando momenti di grandezza ad altri di gravità, di veemenza, ad altri ancora caratterizzati dalla temperanza, ma restando sempre amante della verità.

Demostene affronta subito l'argomento senza preamboli e i suoi pensieri non sono che degli slanci impetuosi di un'anima ardente. Egli è un uomo ispirato e passionale cui la verità tormenta ed agita con violenza. Il suo ascendente è irresistibile, e l'impero onnipotente dell'evidenza sullo spirito umano è nella sua bocca. Stringe ed incalza con figure potenti che sembrano nascere in quel punto dell'argomento: destreggia, urta ed esce, ma sempre dà colpi segreti che pungono il vizio, e feriscono acerbamente i cittadini, i quali non hanno a dolersene, giacché lo scopo di chi colpisce è il bene di loro medesimi.

4   Cfr. *Filippiche*, 350–341; *Olintiache*, 349–348; *Per la pace*, 346.
5   Marco Fabio Quintiliano, autore, tra l'altro, della monumentale *Institutio oratoria* in ben 12 volumi. Si tratta di un corso di educazione del futuro oratore, il cui testo completo venne scoperto dall'umanista Poggio Bracciolini.

Chi legge Demostene dimentica l'oratore, e pensa al grande affare che egli tratta; l'animo si sente riscaldato e spinto ad agire. Egli non ha apparecchi di ostentazione, non metodi d'insinuazione, non esordi studiati; ma dopo aver con una o due sentenze preparato gli uditori ad ascoltare la pura e semplice verità, entra direttamente nel proposito. Egli non cerca il bello; lo crea senza pensarci, ed è sempre al di sopra dell'ammirazione. Si serve della parola come un uomo modesto del proprio abito per coprirsi, non per ornarsi.

Pericle (495 circa a. C. – 429 a. C.)

Politico, oratore, e militare ateniese attivo durante il periodo d'oro della città, tra le Guerre persiane e la Guerra del Peloponneso (431 a.C. – 404 a.C.).

Che Pericle abbia goduto della fama di eccellente oratore viene attestato dalle pagine della *Vita di Pericle* composta da Plutarco: "Da Anassagora Pericle derivò la conoscenza dei fenomeni celesti e le speculazioni elevate, profondità di pensiero e l'altezza di eloquenza, un'eloquenza peraltro immune da qualsiasi forma di ciarlataneria banale e plebea […]".[6]

Dei discorsi di Pericle abbiamo traccia nella *Guerra del Peloponneso* ad opera dello storico Tucidide,[7] dove lo stratega per tre volte prende la parola per rivolgersi agli Ateniesi.

Nel noto discorso tenuto da Pericle in occasione della sepoltura dei caduti del primo anno di guerra (II, 35–46), prevale nettamente l'intento ideologico: l'epitaffio è funzionale al reale scopo del discorso che è celebrativo della democrazia ateniese.

Significativo si rivela anche il terzo e ultimo discorso (II, 59–65) pronunciato dallo stratega nel corso della primavera del secondo anno di guerra. Proprio in questo discorso emerge il volto più umano di Pericle, facilmente riscontrabile dal contesto. Mentre ad Atene l'epidemia di peste continua a flagellare la popolazione, gli Spartani invadono l'Attica, sottoponendola a ripetute devastazioni. L'esito della guerra

6   Cfr. Plutarco, *Pericle*, V, 1.
7   Storico ateniese (n. 460 circa – m. 395 a. C. circa). Da giovane subì l'influsso della cultura retorico-filosofica dei sofisti. L'opera a cui dedicò tutta la vita è la storia della guerra del Peloponneso.

è incerto e gli Ateniesi si interrogano sulle cause del conflitto. Preso atto della grave situazione, Pericle decide di convocare l'assemblea col preciso scopo di infondere speranza nei propri concittadini.

Nell'*incipit* l'abile stratega illustra le ragioni del suo intervento: "Io mi aspettavo che si sarebbero dirette contro di me le manifestazioni della vostra ira (ne conosco infatti le cause), e ho convocato per questo l'assemblea, per ricordarvi alcune cose e rimproverarvi se senza un giusto motivo siete adirati con me o cedete di fronte alle sventure".[8] Ed ecco come si difende davanti all'avversione dei concittadini nei suoi confronti: "Sbigottiti per le disgrazie avvenute nelle vostre case, state abbandonando la salvezza dello stato e accusate me, che vi ho esortati a fare la guerra, e voi stessi, che vi siete associati nella decisione".[9]

Il prosieguo del suo discorso induce a riflettere: "Ciò che è improvviso, inaspettato, e che accade in modo maggiormente contrario ai calcoli rende schiavo lo spirito fiducioso: è quello che è successo a noi, oltre che nelle vicende, soprattutto nel caso della peste."[10] Così Pericle esorta la popolazione a tener duro, a sopportare persino le sventure più grandi: "dovete cessare di affliggervi per le sventure personali, e prendervi cura della salvezza della comunità".[11]

Interessante anche il momento in cui Pericle si impegna a rincuorare i suoi uomini, esortandoli a dare battaglia e a crederci fino in fondo: "[…] E dovete mostrarvi non inferiori ai vostri padri [...]: essi infatti con le loro fatiche, e senza averli ricevuti da altri, conquistarono questi possedimenti e, inoltre, conservandoli li consegnarono a voi (ed è più vergognoso lasciarsi togliere ciò che uno ha già che fallire nel tentativo di impadronirsi di qualcosa). Dovete andare ad affrontare il nemico non solo con senso di fiducia, ma con senso di superiorità".[12]

Infine, Pericle intende motivare i propri concittadini evocando la magnificenza di Atene, e in particolar modo, il suo ineguagliabile dominio sui mari.

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8   Tucidide, *La guerra del Peloponneso*, II, 60. 1.
9   Ibid., II, 60. 4.
10   Ibid., II, 61. 3.
11   Ibid., II, 61. 4.
12   Ibid., II, 62. 3.

Eschine (390 a. C. circa – 315 a.C. circa)

Politico e oratore ateniese, grande antagonista di Demostene. Le principali fonti relative alla vita di Eschine riguardano le sue tre orazioni, ovvero *Contro Timarco*, *Sulla corrotta ambasceria* e *Contro Ctesifonte*. Al contrario di Demostene, Eschine apparteneva al partito filomacedone. Demostene gli fu avverso fin dal tempo della pace di Filocrate (346 a.C.) e lo fece accusare di corruzione da Timarco. A tale accusa, Eschine replicò con l'orazione intitolata *Contro Timarco*, riuscendo a farlo privare dei diritti politici. Demostene riuscì a paralizzare il partito filomacedone sventando le accuse di empietà e sacrilegio mosse da Eschine contro Atene e contro Anfissa. In seguito alla battaglia di Cheronea (338 a.C.), avendo Ctesifonte proposto una corona aurea per Demostene in riconoscimento dei suoi meriti, Eschine si oppose con l'orazione *Contro Ctesifonte*, adducendone l'evidente incostituzionalità, in quanto si assegnava un'onorificenza ad un magistrato ancora in carica. Demostene rispose con la sua orazione *Sulla Corona*, appassionata autobiografia politica e capolavoro della sua oratoria. Sconfitto, Eschine andò in esilio prima in Asia Minore e successivamente a Rodi. Nel corso del suo esilio, per mantenersi, Eschine inaugurò una scuola di retorica. Ancor più significativo risulta il fatto che fu proprio lui l'artefice delle regole per la declamazione pubblica dei discorsi.

Al pari di Demostene, anche Eschine rivela una notevole cura stilistica e compositiva. Rispetto allo stile decisamente veemente di Demostene, le caratteristiche retoriche peculiari di Eschine riguardano la chiarezza espositiva, la prontezza e scioltezza di linguaggio e in particolare la semplicità lessicale. Non stupisce quindi la sobrietà e la precisione del suo stile, il quale, evitando di suscitare un forte impatto emotivo, si limita a rimanere legato ai valori preminentemente razionali. Nella sua produzione oratoria prevale sia l'aspetto narrativo-espositivo sia la dettagliata e precisa ricostruzione dei fatti. Il suo maggior pregio resta quello di far apparire le proprie valutazioni come il logico ed inevitabile risultato della presentazione dei fatti medesimi, dando così l'impressione di voler convincere mostrando semplicemente l'evidenza della realtà, evitando contemporaneamente di sfruttare l'onda impulsiva dell'invettiva verbale.[13]

13   Per un'accurata analisi dei maggiori oratori greci, segnalo l'ottimo contributo di Franco

Marco Tullio Cicerone (106 a. C. – 43 a. C.)

Prodigioso scrittore e oratore latino, fautore dell'ideale di un uomo di cultura capace di coniugare sapienza teorica ed esperienza pratica, impegno di studio e attività politica. Nato da agiata famiglia equestre, a Roma si formò nella giurisprudenza grazie alla scuola dell'eminente giurista Quinto Mucio Scevola. Sempre a Roma ebbe maestri di filosofia l'accademico Filone di Larissa e lo stoico Diodoto, di eloquenza specialmente Apollonio Molone di Rodi. Nel 75 a.C. ottenne la questura per la Sicilia occidentale. Guadagnatosi la gratitudine dei Siciliani, questi ultimi lo vollero loro patrono nella causa da essi intentata nei confronti di Gaio Licinio Verre. Cicerone riuscì a sventare i tentativi di salvataggio ad opera degli oligarchi in favore di Verre, e appena presentò i risultati della sua inchiesta (*Actio I in Verrem*), Verre si rifugiò in esilio. Ma Cicerone pubblicò anche la sua seconda requisitoria (*Actio II*) in ben cinque orazioni. Con l'orazione *De provinciis consularibus*, Cicerone dovette assecondare la volontà e le intenzioni dei triunviri. Grazie al raccoglimento in cui poi si chiuse, realizzò opere importanti quali il *De oratore* e il *De republica*. Durante il periodo più tormentato della sua vita, alle angustie politiche si aggiungevano quelle familiari: nel 47 il divorzio da Terenzia, nel 45 la morte della figlia Tullia, e poco dopo il divorzio dalla seconda moglie, la giovane Publilia. Cicerone allora si dedicò anima e corpo agli studi, producendo le sue principali opere filosofiche. In seguito all'assassinio di Giulio Cesare avvenuto nel 44 a.C., Cicerone scagliò contro Marco Antonio, che mostrava di voler succedere a Cesare, le famose 14 orazioni dette *Filippiche*.[14]

Per Cicerone, il buon oratore possiede "… l'acume del dialettico, la profondità dei filosofi, l'abilità verbale dei poeti, la memoria dei giureconsulti, la voce dei tragici, il gesto dei migliori attori".[15] In effetti, l'*ars oratoria* consiste nel saper dire tutto e il contrario di tutto senza apparire contraddittori. Significa in primo luogo persuadere,

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Montanari e Fausto Montana, *Storia della letteratura greca: dalle origini all'età imperiale* (Roma−Bari, 2010).

14   Così denominate col preciso scopo di omaggiare il grande oratore greco Demostene, suo modello sia dal punto di vista retorico ed oratorio sia da quello morale e patriottico. Infatti Demostene rappresentava per Cicerone il modello ideale dell'oratore politico formatosi attraverso lo studio dei testi filosofici.

15   Cicerone, *De oratore*, I, 48.

utilizzare consolidati schemi retorici (che spesso vengono adoperati inconsapevolmente) per condurre gli ascoltatori ad un prefissato obiettivo.

Secondo Cicerone, un discorso doveva essere in grado di ammaestrare, commuovere, divertire, quindi doveva coinvolgere più piani, dalla ragionevolezza degli interlocutori fino alla loro emotività, come pure al loro gusto estetico.

Epilogo

Come si è potuto constatare attraverso questa esplorazione, i vari esponenti dell'oratoria classica sono tutti accomunati da un notevole slancio di passione politica, filosofica e specialmente retorica.[16] Quest'ultima, che si configura come "teoria generale della comunicazione", tanto che lo storico francese Henri-Irénée Marrou[17] la definisce denominatore comune della civiltà occidentale, presenta come suo principale scopo la persuasione, vale a dire, l'approvazione della tesi dell'oratore da parte di uno specifico uditorio. Da un lato, la persuasione rappresenta un vero e proprio fenomeno emotivo di assenso psicologico; dall'altro, presenta una base epistemologica. In effetti, lo studio dei fondamenti della persuasione costituisce l'analisi degli elementi che, connettendo diverse proposizioni tra loro, conducono ad una conclusione condivisa, quindi a vari modi di rivelazione della verità nello specifico campo del discorso. Sotto questo aspetto essa è, come osserva Roland Barthes, un metalinguaggio, in quanto "discorso sul discorso".[18] Da un lato la retorica studia l'organizzazione nonché la strutturazione di una determinata orazione (parte che potremmo definire "sintagmatica"); dall'altro, essa si occupa anche del cosiddetto *ornatus*, cioè di tutti quei procedimenti stilistici quali figure, tropi e colori in generale che mirano ad ornare il discorso conferendogli una patina decisamente più gradevole e quindi più efficace (parte "paradigmatica").

16　Cfr. C. Perelman – L. Olbrechts-Tyteca, *Trattato dell'argomentazione. La nuova retorica*, 2 voll. (Torino,1966); C. Perelman, *Il campo dell'argomentazione* (Parma,1979).
17　Cfr. Henri-Irénée Marrou, *Histoire de l'éducation dans l'Antiquité* (Paris, 1948).
18　R. Barthes, *La retorica antica* (Milano, 2006), p. 7. Dello stesso studioso segnalo anche *Le plaisir du texte* (Paris, 1973).

L'aspetto più significativo della presente ricerca riguarda la genesi dell'eloquenza che risale all'età ellenistica, esattamente presso l'antica colonia greca di Siracusa. Aspetto ancor più significativo è che l'eloquenza rimarrà un capisaldo della comunicazione in epoche successive, quando verrà consolidata e perfezionata prima in epoca romana e poi tramandata fino ai nostri giorni. In effetti, quello che oggi viene comunemente denominato con il termine moderno di Public Speaking, non è altro che l'eredità nonché il frutto più cospicuo dell'oratoria intesa nell'accezione classica del termine. Di conseguenza, la comunicazione odierna più efficace, indipendentemente dall'ambito religioso o politico o più strettamente pubblicitario, deve necessariamente fare i conti con la fondamentale lezione della retorica classica, fino a diventarne, per qualsiasi tipo di approccio comunicativo e semiologico, il proprio punto di partenza nonché la propria sicura e lungimirante stella polare.

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