

APRIL 2018 • ISSUE 23

THINK

IDEAS • MALTA • RESEARCH • PEOPLE • UNIVERSITY



VISIT THE VALLETTA UNDERGROUND CISTERNS

PART OF DAL-BAĦAR MADWARHA
CONTEMPORARY ART EXHIBITION

25TH MARCH - 1ST JULY

Another Valletta 2018 project

WHO BY FIRE

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BY SUSAN PHILIPSZ

OPEN ON 25TH MARCH

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LARGE SCALE INSTALLATION

AT THE PIXKERIJA, VALLETTA

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EDITORIAL

ARTS

Humanity's journey has been fraught by war and tragedy. But through it all, we have endured. Not only that, but our predecessors have left behind a trail of gems—the arts.

Some of the most important archaeological findings have been artistic in nature. From the Cave of Altamira in Spain and the mesmerising Terracotta Army, to the beautiful treasures in Tutankhamun's Tomb, they are all testaments to human tenacity. Legacy builders like Van Gogh, Picasso, and Dali have no equals. Our conclusion—art is human.

For 2018, the **THINK** team is delving into three aspects of human intellectual thought to show the breadth of what research can mean. Our Arts Focus starts this journey.

Nikki Petroni writes about how Maltese artists need to be contextualised in an international setting (pg. 22), while Prof. Raphael Vella interviews a local artist that exhibited at the Venice Biennale (pg. 38)—it does not get more international than that. But the arts are not just paintings, with films (pg. 28), dance to aid Parkinson's Disease (pg. 52), and storytelling for a better quality of life all being part of that world. The issue also reflects on what the 2018 European Capital of Culture means for Valletta's citizens (pg. 64)—not to be missed.

Other research coming out of the University of Malta is as varied as ever. Drones are being used to study Malta's historical sites (pg. 62). Ancient languages (pg. 11) are given their due. Malta's problem with waste management also gets tackled (pg. 48). And, if you'd like a lighter read, just check out our To-do list (pg. 72) to keep you busy during an impressionist spring.

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COVER STORY



ARTS

For **THINK** issue 23's cover, illustrator Roberta Scerri was inspired by the artistic process. The artwork visualises the myriad of thoughts and ideas swimming through a creative's mind when faced with a blank canvas. At the same time, she also worked on a childhood memory—the paint, fold, and print reflection exercise found in beginner art classes—to remind us all of one simple lesson: we all have to start somewhere.

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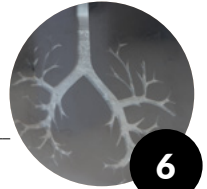
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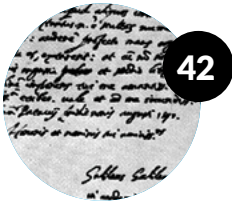
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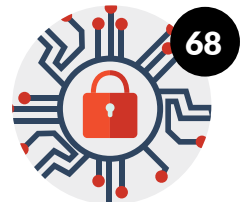
What to watch, read, listen to and who to follow on social media

Our content picks to stimulate your eyes, ears, and mind

ALUMNI

Cyber-safety in an ever-shifting landscape

At a time when cyberattacks are a dime a dozen, you need a company like CyberSift by your side.



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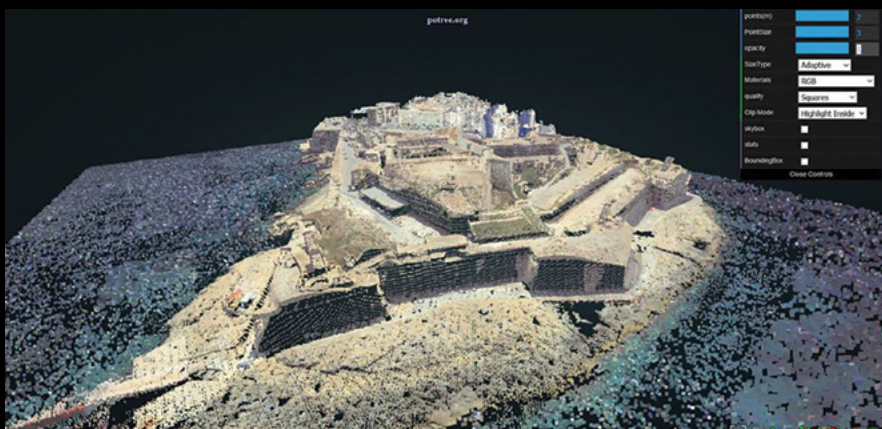
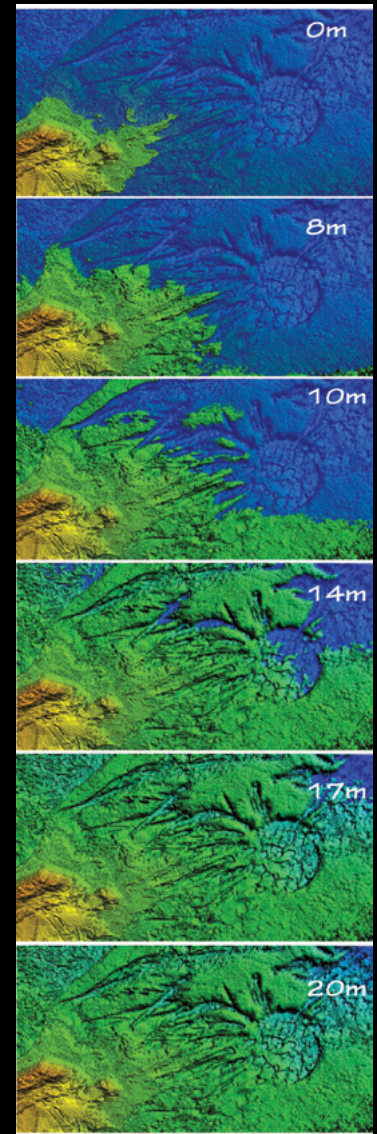
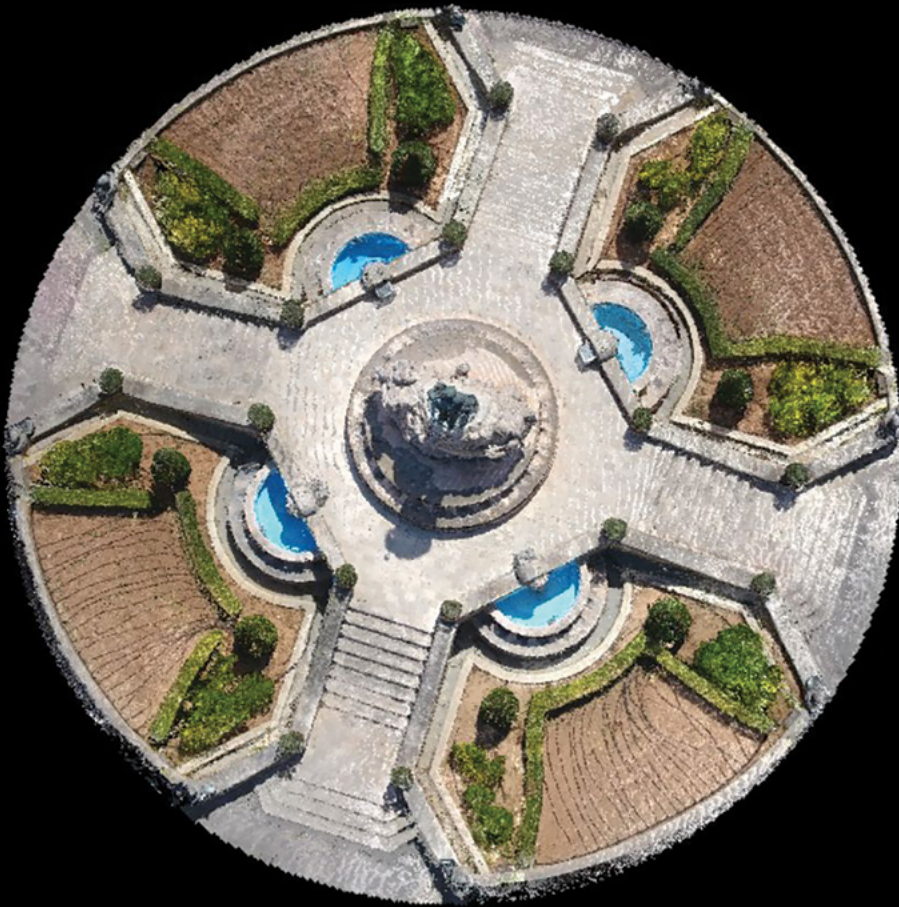
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L-Università ta' Malta

TOOLKIT



Top Left: The Workers' Memorial Monument, Msida

Top Right: Gharibiel transition

Left: Fort St Elmo, Valletta

Right Page: Hal-Saflieni Hypogeum, Paola

Photos by CloudIsle Team

Mapping in 3D


Drones have rapidly gained popularity in recent years. They are now commonly used by photographers and videographers, law enforcement, the military, and criminologists. At the University of Malta (UM), they are being used as a part of *Cloudsle*.

Cloudsle, a project headed by Prof. Saviour Formosa (Faculty for Social Wellbeing, UM), is using drones kitted out with laser scanning tools, ground-penetrating radar, and surveying equipment to create 3D maps of Malta. Using billions of data points, the fine details of above and below-ground features can be recorded. This includes precise detail on buildings, as well as the intricacies of the

The technology will even be used to uncover underwater artefacts at up to 500m depth.

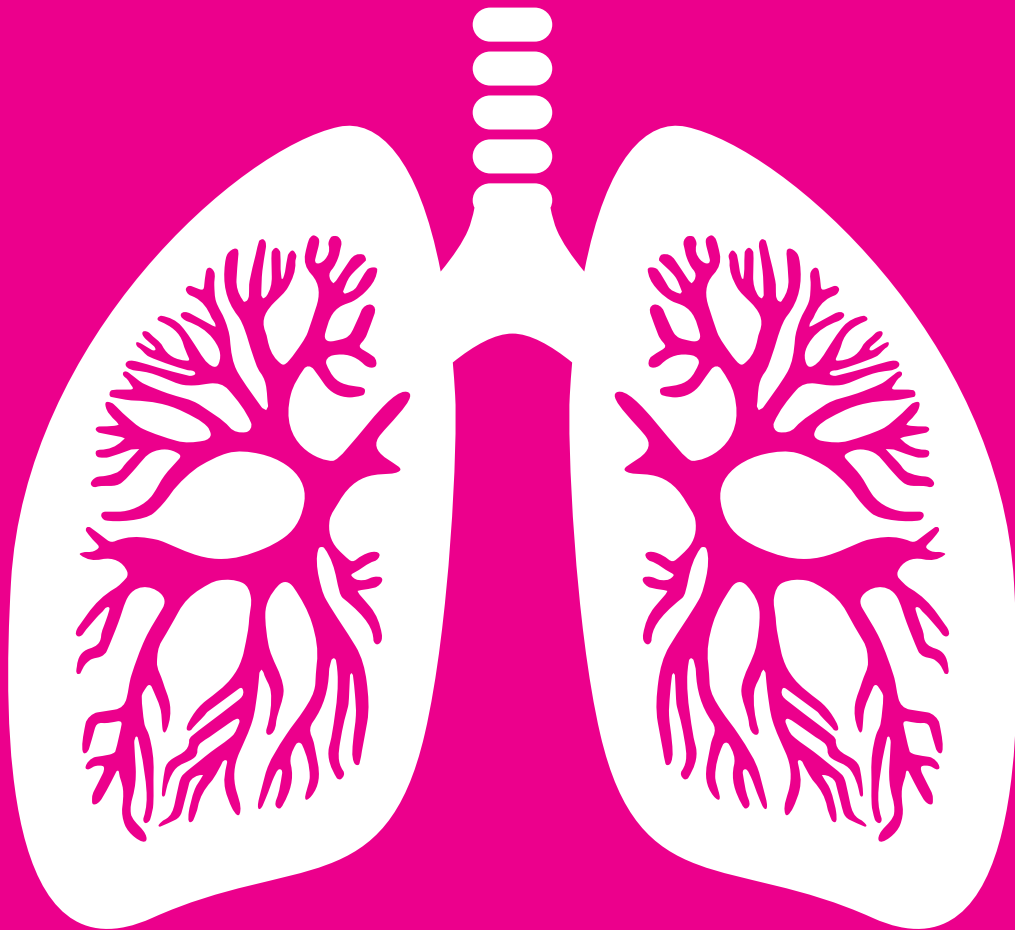
island's labyrinth of underground caves. The technology will even be used to uncover underwater artefacts at up to 500m depth. The legendary Um El-Faroud and the Xlendi-Karwela-Cominoland trio of wrecks, now transformed into artificial reefs and popular diving sites, are currently under review.

This data's real-world applications are vast. It can be used to aid Malta's Planning Authority and ensure building stability, as well as analyse extreme weather and monitor climate change. The Department of Criminology (Faculty for Social Wellbeing, UM) is also employing these tools in environmental enforcement, as well as for spatial forensics and crime reconstruction in scenes related to bombings and homicides.

Cloudsle is already reaping rewards. The team has discovered and named the Ghariebel doline land feature off the Selmunett Islands. They have also created a baseline map of Malta and its seas that can be used to integrate new 3D spatial data. 



WITHOUT BORDERS



Onfoh

Breathing moves air in and out of the lungs. Oxygen goes in, carbon dioxide is flushed out. An exchange occurs within our internal environment. *Onfoh* is an installation that explores the phenomenon of carbon emissions through human respiration.

Carbon emissions are loosely defined as the release of greenhouse gases and their precursors into the atmosphere over a specified area and time. This notion is usually linked to the burning of fossil fuels like natural gas, crude oil, and coal. In short—human activity.


From the very beginning, humans have altered their environment. In fact, an average person takes 12 to 20 breaths per minute, amounting to an average of 23,040 breaths per day. The world's population collectively breathes out around 2500 million tonnes of carbon dioxide each year, around 7% of the annual carbon dioxide tonnage produced by burning fossil fuels.

Although the carbon dioxide produced through breathing is part of a closed loop in which our output is matched by the input from the food we eat, it can be used as a metaphor to visualise other unseen outputs from other man-made sources: transportation, electricity, heating, water consumption, food production.

Onfoh was designed to engage citizens and address an overwhelmingly challenging

environmental problem of our time—our inability to visualise our own carbon footprint. The work does this by showing that which is usually unseen—the physical manifestation of carbon emissions.

The installation consisted of five plinth-like structures, each housing a glass container of lime water. Stencilled onto the pillars were illustrations of lungs, each consecutive pair having decreased surface areas, conveying a sense of degeneration. When the audience interacted with the installation, breathing into the lime water and adding carbon dioxide, they triggered a chemical reaction that produced insoluble calcium carbonate. The clear solution turned milky, making the invisible visible.

Humans contribute constantly to carbon-based, hazardous waste production, and the installation demanded that they face that reality. 

Note: The installation was displayed as part of a collective exhibition entitled *Human Matter*, hosted by the Malta Society of Arts at the end of last year. David Falzon, Matthew Schembri and Annalise Schembri teamed up to work on this artwork as soon as they finished reading for an MFA in Digital Arts (Faculty of Media and Knowledge Sciences, University of Malta).



Installation by David Falzon, Matthew Schembri and Annalise Schembri for *Human Matter* collective exhibition.

DESIGN

Instant Photography

Instant cameras, commonly referred to as 'Polaroids' thanks to the pioneering company, offer limited manual-automatic controls. These self-developing photographs present numerous analog imperfections, but additional aspects make them distinctive.

Polaroids do not document the world faithfully. They create a new version of it through their own lighting schemes, colours, and softness; a quality associated with past technologies. All these aspects enhance the transient nature of subjects, such as a boy counting in during a game of hide-and-seek (see picture).

The process of capturing an image can also draw from 'missed opportunities'. These are subjects one comes across but does not photograph due to not having a camera at hand, or for fear of intrusion. A line of people coming down a hill, or visitors waiting like purgatorial souls outside a

derelict hospital—such images are captured in the mind and their essence might be transferred into other shots.

Having the image in hand within minutes does not necessarily make the medium of instant photography unique, for even the photos themselves can change hues and mood with time. What does make it unique is its unpredictability and the challenge it poses when it comes to materialising intentions within the limitations of the medium. This makes the effort worth pursuing.

An image illustrates the relationship between a subject and its viewer. It is a perspective on the world, be it a printed photograph, a digital file, or a memory.

Find out more about *Instants*, published by Ede Books, here: <http://bit.ly/2yCQLyV>



The qualities of instant photos enhance the transient nature of subjects.

Photos and article by Charlo Pisani





Lighting the way to darker skies

Dr Joseph Caruana

As the sun sets and the sky darkens, a black velvety curtain adorned with flecks of twinkling lights is drawn across the heavens, and a milky white band of fuzzy glow stretches majestically overhead. Unfortunately, this experience is nowadays denied to us thanks to artificial lighting. The sky is often left awash in a cold, jarring glow, making Malta one of only five countries whose citizens are denied the possibility of observing the Milky Way from their home.

A few select coastal sites remain where we can see the Milky Way. But even those are under continuous threat. In 2002 the Malta Environment and Planning Authority designated a number of sites in Gozo and Comino as Dark Sky Heritage Areas, stating that 'reflective signs shall be employed to guide driving at night, whilst the installation of lighting which is not related to aerial or maritime navigation, shall be strongly discouraged.' Since then, light pollution has still been increasing and is seriously impinging upon these areas.

To some, the ability to appreciate and study the night sky might be less of a priority, but light pollution affects our

lives in many more ways. Our night-time environment is fast becoming a vista of blindingly cold light, and we need to act now to reverse this. Badly designed lighting can result in glare, which is especially dangerous while driving. Light trespassing into people's homes creates a myriad of problems, ranging from mild discomfort to serious sleep disruption. Studies have linked bright LED lighting with adverse health effects, as it can interfere with our circadian (daily) rhythm. Light pollution also disturbs wildlife. For example, conserving colonies of birds that make their home at the cliffs of Dwejra, like Scopoli's Shearwater and Yelkouan Shearwater, depends heavily on our efforts to curb light pollution.

The solution is not as drastic as switching off all our lights, but adopting *full cutoff* lighting in streets to illuminate the ground without spilling light everywhere else.

Luckily, light pollution is a reversible problem. Authorities can choose to bring about positive change, sometimes requiring little effort. Do we really need our public monuments, churches, building facades, and playing fields to be illuminated all night long, oftentimes with skyward-pointing floodlighting?

When planning new lights for a road or a public space, should we not consider the impact the proposed lighting will have on the surrounding community and environment?

Conservation of our natural environment is not diametrically opposed to human activity and business interests. Other countries have long recognised the night sky's potential for eco-tourism.

The Department of Physics (Faculty of Science, University of Malta [UM]) and Institute of Space Sciences and Astronomy (UM) are currently embarking on a new study of our islands' night sky's brightness. Interested parties, authorities, and non-governmental organisations alike are most welcome and encouraged to get in touch. It is only through awareness, dedication, and proper coordination that we can help ensure that future generations can still enjoy the peaceful beauty of the Maltese night sky. **I**

Further reading:

Falchi et al., 'The new world atlas of artificial night sky brightness', *Science Advances*, vol. 2, no. 6, 2016, e1600377



Classical Hebrew undying

Dr Abigail R. Zammit

Classical Hebrew is the Hebrew of the Tanakh, the Jewish Scriptures, the very source of the Christian Old Testament. Its first appearance in the historical record dates back to the 10th century BCE, and like the other semitic languages from which it emerged, it was written from right to left and comprises only consonants. By the turn of the Common or Current Era, its use as a spoken language was quickly being superseded by Aramaic and Greek. A few centuries later it was a linguistic relic, its use limited to liturgical and literary contexts, not so different from the use of Latin much later in the Christian west.

'Dead' languages bring up the question of relevance. They are limited in their vocabulary, especially when compared to their contemporaries; the Classical Hebrew lexicon amounts to just about 10,000 words. Today, they could not be used for communication, on official documents, or for most conventional things. However, there is one function ancient languages fulfill in a far superior manner—interpreting ancient texts.

Modern translations cannot quite capture the nuance of ancient texts.

Translators can only convey ideas after making countless choices in the understanding and rendering of words, all while being consciously or unconsciously guided by their own ideological leanings. Translations are essentially interpretative exercises. Armed with knowledge of the original language, a reader can identify the original authors' ideology, emphasis, word order, and tone. All of these features could easily be lost in translation. For example, should the word 'm^cshihu' in Psalm 2:2 be translated as 'his Messiah' or 'his Christ' or 'his Anointed One'? A choice needs to be made, and that choice does make a difference.

Archaeologists use the same concept when studying ancient artefacts, as do epigraphists, the specialists who study inscriptions. Understanding the inscribed language on items leads to a clearer, more colourful picture of its context and origins. The Malta Government Scholarship Scheme supported me in carrying out such an epigraphic study for my doctoral research at the University of Oxford. My project dealt specifically with a group of inscribed pottery sherds discovered at Lachish (modern Tell ed-Duweir) in

Israel. Combined with an archaeological and contextual reassessment, these inscriptions provided valuable insight into the socio-political history of early 6th-century BCE Judah, including scribal culture and the mastery of the contemporary Hebrew language, as well as military operations and prophetic activity, all of which strike similarities with the Book of Jeremiah.

Studying Classical Hebrew can be a rigorous mental workout that instills an appreciation for detail: an insight useful across innumerable fields. Not only does it provide a solid foundation for Modern Hebrew, but it offers a fresh perspective for those wishing to read biblical texts in a critical manner. After all, the Bible remains an iconic cultural artefact in the western world, vital when discussing not only ideology but even cinema, literature, music, and art.

Ancient languages give a voice to our history and the people who shaped it, all the while providing food for thought for those in the present. **T**

For more information: The Department of Oriental Studies (Faculty of Arts, University of Malta) offers study-units on Classical Hebrew grammar, syntax, and readings at undergraduate level.



Usability—the frustrated user

Dr Conrad Attard

Today we can say ‘there is an app for everything.’ Android and iOS boast over 3.5 million and 2.2 million apps on their platforms respectively, each of them fulfilling a role, be it social, utilities, entertainment, gaming, productivity, commerce, and much more.

As users continuously feed personal and work-related information into their smartphones, from calendar entries to sign-ins at favourite restaurants, apps are becoming more personalised, learning more about their behaviour.

So what role does usability play in the digital world? The term usability is part of a broader term referred to as ‘user experience’. Usability assesses how easy it is for people to use interfaces. Developers are expected to create apps that people need, but they need to keep in mind that if that app

is difficult to manoeuvre, their target audience will stop using it. From users’ perspective, too many apps these days are failing to add enough value, seeing adoption drop off quickly.

At the workplace, employees are expected to learn and use software applications. A lot of these are now available through mobile devices that need to be connected. However, studies conducted in different scenarios such as airport environments and healthcare show that people are struggling to adopt technology.

Most people access apps related to public services on their smartphones and tablets so that they can submit e-forms and conduct work of that sort. Unlike with leisure apps and games, the choice in this field is limited to the apps provided by the public entities themselves.

As a result, users or employees of companies become frustrated when apps are not designed effectively.

More usability experts are needed to improve the way apps are designed.

Well-designed apps empower people, seeing them become more confident with technology they are unfamiliar with. Better apps contribute to addressing challenges people face when they can’t keep up with the swift advances of the digital world. The use of digital tools that are easy to learn and easy to remember allow users to create, understand, and communicate while continually developing their digital skills. Usability not only boosts digital literacy, it also bridges the gap between tech-savvy users and those we risk leaving behind. **T**

Further reading:

C. Attard, G. Mountain, and D. Maria Romano; ‘Problem solving, confidence and frustration when carrying out familiar tasks on non-familiar mobile devices,’ <https://doi.org/10.1016/j.chb.2016.03.001>

However, studies conducted in different scenarios such as airport environments and healthcare show that people are struggling to adopt technology.

STUDENTS



Spotting marine litter Serena Lagorio

Marine litter is a problem found across the world. As well as being directly deposited in seas and oceans, plastic, wood, rope, and other items are accumulating on land and making their way into bodies of water. On the Maltese Islands, such littering happens frequently. Last summer the Physical Oceanography Research Group (Faculty of Science, University of Malta [UM]) took a step towards tackling the issue.

Under the supervision of Prof. Alan Deidun and Adam Gauci, I sought to harness innovative techniques and create a monitoring programme that would begin to identify what kind of litter is on Malta and Gozo's beaches.

The national Marine Strategy Framework Directive was followed to ensure good data collection and meeting of the 'Good Environmental Status' by 2020. The study used images captured by a drone in three coastline areas: the north east Marine Protected Area of Malta, Qawra Point, and the eastern and western points of Baħar Iċ-Ċagħaq. Flying at an altitude of 30 meters, the drone was programmed to spot specific categories of marine and coastal litter. These included plastic, wood, rope, rubber, and other miscellaneous items such as washing machines and mattresses.

Apart from characterising marine litter, the project aimed to observe whether hydrodynamical phenomena, such as wind and currents, are also influencing the accumulation of litter. However, results showed that the difference between the areas of study was not due to dynamics of coastal currents and coastal topography, but to human activities. In Baħar iċ-Ċagħaq, for example, categories such as wood and plastic were found on land at considerable distances from the shoreline, close to points easily accessible by cars.

We also used statistical analyses to confirm that parameters such as tourism, lack of public knowledge, and lack of environmental consciousness are affecting the accumulation of marine litter, laying the blame firmly on human activities.

The remedy to the situation is in Maltese citizens' hands. Only we have the power to turn things around. It's time to clean up our act. **T**

This research was carried out as part of a Masters in Physical Oceanography, Faculty of Science, UM.



Drawing with our eyes

Matthew Attard

Drawing can be defined as the active exploration of an individual's mental imagery. John Berger described it as 'an autobiographical record of one's discovery of an event—seen, remembered, or imagined.'

The initial hunch for my research revolved around the idea of drawing with one's eyes instead of hands by using an eye-tracker.

The approach intrigued me for three reasons. It allowed me to explore the notion that an artist's skills are in his tools—his hands. The eye-tracker-based technique 'levelled the playing field' between artist and non-practitioner by removing hands from the equation. Secondly, through eye-drawing practice, I could also notice a shift in the drawing methods used. Normal drawing involves hand-eye coordination and a degree of intuitive eye movements. In 'eye-drawing', these movements have to be suppressed into following contours along the observed worldview, while also restraining the impulse to refer to the accustomed curvilinear hand motions. All this feeds into the fact that eye-drawing cannot be regarded through the same approach as 'normal' drawing. Eye-drawn objects have a direct representation tied to their place and time of execution and acquire a technological aesthetic.



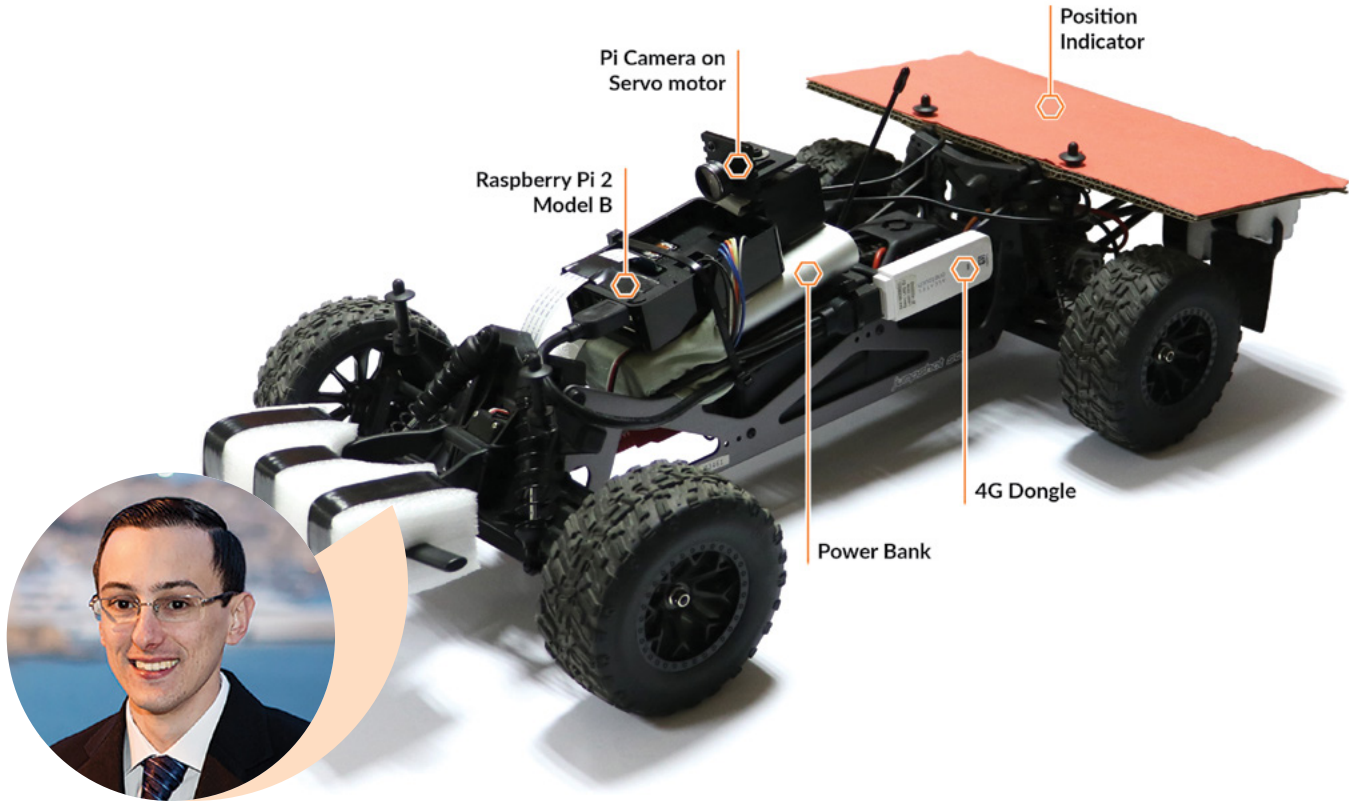
Illustration of seven superimposed eye-drawings of the model, undertaken from the same viewpoint by five different participants.

I explored these concepts in several experiments. I ran communal 'life' eye-drawing classes with first year students reading for an MFA (Faculty of Media and Knowledge Sciences, University of Malta [UM]). Their resulting visuals were surprisingly individualistic, highlighting their characters, a quality I observed to be constant throughout all eye-drawings.

Using an eye-tracker to draw led to some exciting possibilities. I tested a preliminary algorithm, developed by my colleague Neil Mizzi, (Faculty of ICT, UM) that 'corrected' an eye-drawing by comparing it to a real-world picture. The technique could be applied in future eye-drawing devices designed to help physically impaired individuals to draw from real-world images using just their eyes.

It can be argued that art is a subjective experience, both in its creation and perception. Eye-drawing can exploit this subjectivity revealing 'signature' gestures through a new way of looking. **■**

This research was carried out as part of a Masters by research at the Department of Digital Arts, Faculty of Media and Knowledge Sciences, University of Malta (UM).



Are we ready for self-driving cars?

Clint Galea

In 2016 a 40-year-old technology company owner called Joshua Brown was killed when his autopiloting Tesla Model S malfunctioned. Since then a number of other incidents have raised the problem of safety in and around autonomous cars. One potential solution is to connect cars together so that they can keep in constant touch, letting each other know exactly where they are and when to get out of the way. Another alternative is to have a human pilot the vehicle for part, or all, of the journey, reducing some of the fear associated with self-driving cars' safety and giving rise to so-called remotely-piloted ground vehicles (RPGVs).

Because this idea needs a stable and constant Internet connection, I wanted to test if the current 4G network is fast enough for these cars to drive and function safely. Relying on a hefty amount of external data about pedestrians, other traffic, road layouts, and more makes things difficult.

At the Department of Communications and Computer Engineering, (Faculty of ICT, University of Malta [UM]), on a project led by Prof. Ing. Saviour Żammit, we created an RPGV by modifying a radio-controlled vehicle and used it to test the suitability and safety of 3G, 4G, and Wi-Fi networks.

Fast communication between driver and car is crucial for the safety of RPGVs. If information from the car takes too long to reach the driver, they won't be able to react quickly enough to avoid obstacles and accidents.

On Wi-Fi networks, we found that when the connection moved from one base-station (the receiver-transmitter that serves as the hub of a local wireless network) to another, the handover took too long. This problem meant that whilst the connection was transferring, the video was lost, leaving the car blind. This is obviously dangerous and means that these networks are not safe enough for automated cars. 3G was not fast enough to transmit video in real-time.

The next step was to set up an outdoor racetrack to test the RPGV over the 4G network on UM grounds. We varied the networks' signal delay and the camera's range of view, then measured the lap times, distance travelled and road cones hit to calculate driving accuracy. Finally, we compared them to how accurate the drivers thought they were driving.

We concluded that 4G mobile networks allow adequate remote control of an RPGV, although the amount of delay left little room for error. A faster 5G network would be able to act quickly enough to avoid accidents, so self-driving cars will need to wait a bit longer before becoming a reality. **T**

This research was carried out as part of the Masters of Science (Telecommunications) program, Faculty of ICT, UM, supported by GO plc and the Research Fund Committee of the UM.





ARTS

The arts are human expression. They can be political, provocative, beautiful, expressive, emotional or go against all of these values.

In this FOCUS, we have a selection of research and interviews from the University of Malta that are sure to contribute to the ongoing dialogue.



A generation game

Sharing thoughts, ideas, and memories to bridge the divide between young and old.

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a generation game

Sharing memories, ideas, and feelings is something we usually do with friends. What if you were asked to do it with a stranger? And what if that stranger was 'from a different time'? Active Age – Intergenerational Dialogue project creator **Charlotte Stafrace** has the answers.

Anyone who has worked in the arts will tell you that a touch of creativity can see you achieving everything you set out to and more, albeit in a potentially roundabout way. The arts encourage people to break away from habit, explore new areas of experience, and learn. This ethos inspired the Theatre Anon Arts Foundation while engaging with the Maltese elderly community.

Active Age was a pilot project that motivated older adults to move their bodies while sharing their life experiences. We noticed that fun tends to slip away from our day-to-day lives when we're not looking, so improvisation games and props like flowing scarves and balls encouraged playfulness. This translated into a willing openness when it came to contributing to the 'memory boxes' created along the other side of the project. While looking through the mementos and telling stories, everyone in the room connected.

Through *Active Age*, many of our participants realised their potential to make a real difference in others' lives. It was then that we decided to broaden our horizons, and expand the borders of the conversation to include young people. This is how *Active Age – Intergenerational Dialogue* came to be.


BRINGING PEOPLE TOGETHER

Intergenerational dialogue is often spoken of as if it were a reaction needing a scientist to place the elements together in a very controlled environment,

which is not entirely inaccurate. There seems to be a gap growing between people of different ages. Project participant Nenu (82) said 'We have become people that others are not happy to see or talk to. We are seen as slower [...] We get in the way.' Maria, a student, echoed this sentiment, saying that 'To me, they [older generations] are separate, they have another life.' This mentality could result in a fragmented community: one that loses touch with itself as the years go by.

With *Active Age – Intergenerational Dialogue*, we sought to recreate the connections developed in the pilot project, but this time across generations. To do this, we sought out a number of collaborators. Spazju Kreattiv provided a platform. The Active Ageing and Community Care Directorate helped us get the word out. A number of day-care centres and homes gave us the space we needed to conduct the sessions. Education institutions MCAST, *Aġenzija Żgħażaġh*, and masters students from the Department of Gerontology (Faculty for Social Wellbeing, University of Malta [UM]) also came on board.

GETTING DOWN TO BUSINESS

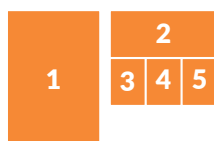
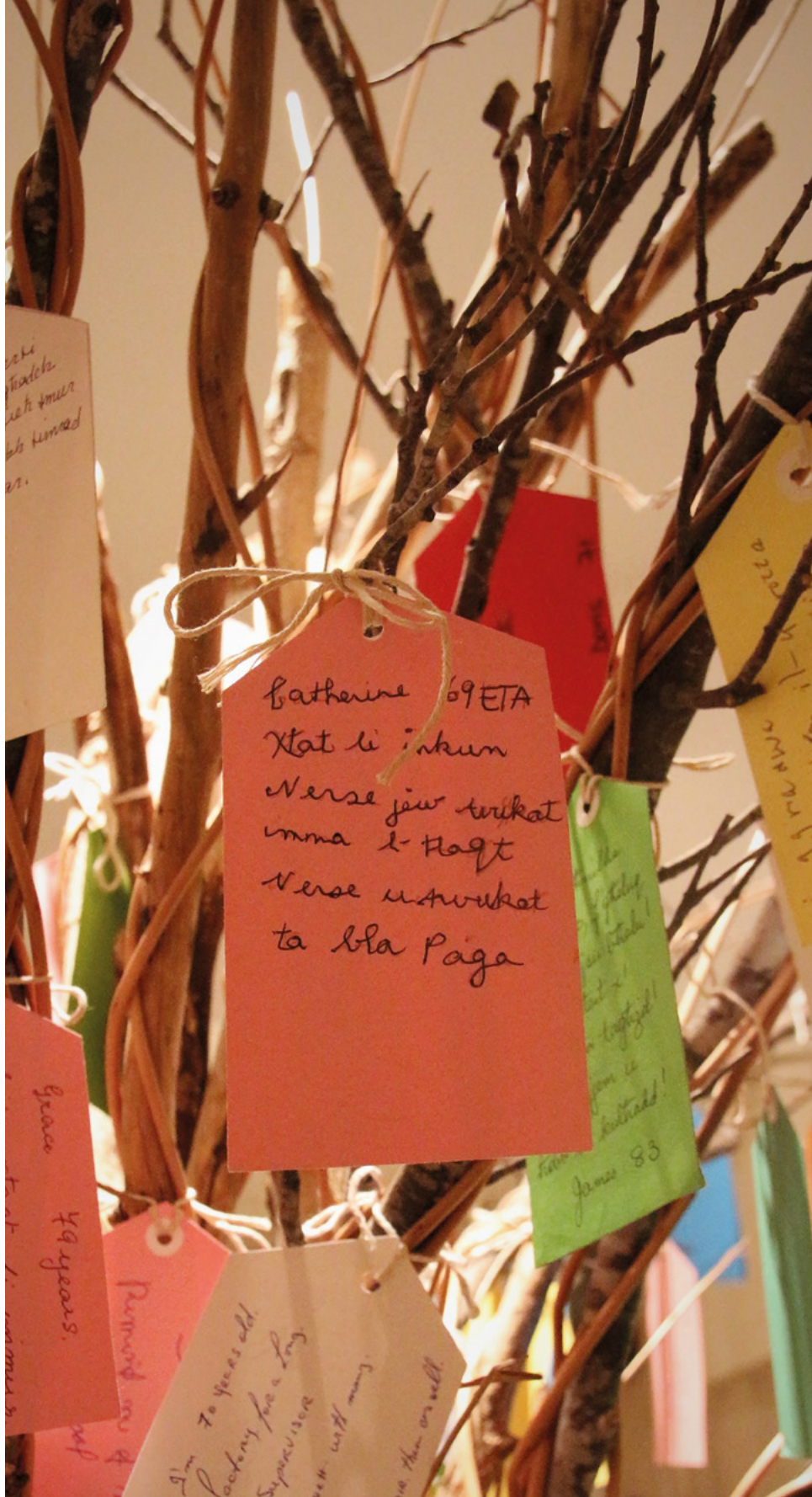
The process created a cycle of meaningful exchange, including skill-sharing. The UM's Gerontology students attended a workshop on creative skills which they then put into action during the sessions we conducted—120 in total. The team also learnt a lot during the research 

All of this created a wonderful atmosphere and helped foster a shared identity as a community.

process from previous projects. We looked into the local context and tried to determine what would work and what would not. It is not easy to ruffle feathers, or to get people to move and have fun when they have not been encouraged to do so for years. But the results proved immensely positive.

We created a safe space where participants could have fun and laugh out loud. Through reminiscence activities we gave our older adults and youths an opportunity to explore the things that tie us together as human beings. While going through photos, an older woman told her younger counterpart, 'Once upon a time, I had a body like yours and I had energy to waste [...] no one could ever stop me.' Another lady pointed out how they did not have the same freedoms younger people enjoy today. But even so 'we had loads of fun; we ran, we danced. When I see you I see so much of me, how I was before...'

As the sessions went on, we implemented themes such as love, fashion, music, and entertainment to keep everyone engaged and inspired. We would ask participants to bring in items related to the theme: images of their wedding days, old games, old perfume bottles, and recipe books. Some days we would find music from their favourite decades and sing and dance. All of this created a wonderful atmosphere and helped foster a shared identity as a community.



1. Active Age tree installation
2. Active Age activities, Siggiewi
3. Active Age activities, Bormla
4. Active Age activities, Paola
Photo by Charlotte Stafrace
5. Charlotte Stafrace
Photo by Pierre Stafrace



All these items provoked discussion, always highlighting common interests and differences. In care homes, the conversation and connection would sometimes go on beyond the confines of the workshop. Participants would invite me into their rooms to see their personal belongings.


From week to week, as new challenges were introduced, we observed changes in attitudes and an increased willingness to participate. In care homes particularly, when sessions came to an end, participants would ask about what would happen next and if they would see us again.

THE GRAND FINALE

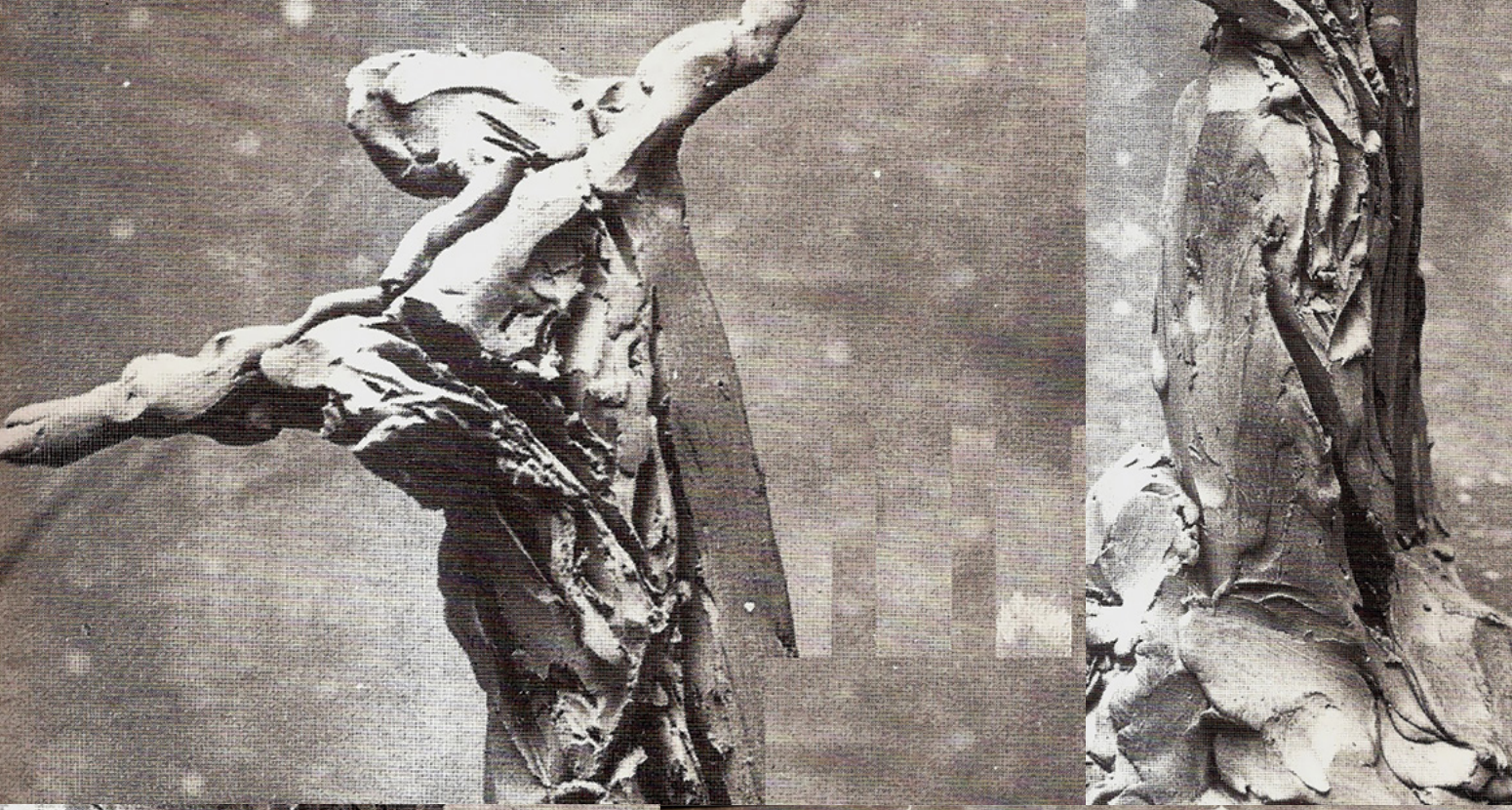
The project did not end there. It continued through an interactive exhibition at Spazju Kreattiv, which included images and works from the sessions. The centrepiece was a tree-shaped installation covered in notes which the older adults wrote, sometimes with the youths' help, answering the question: What would you tell your younger self?

The result was a very poignant piece full of tales of lost dreams, opportunities, and heartbreak, with stories of encouragement, happy times, and cherished memories sprinkled throughout.

It also worked to encourage further dialogue as visitors themselves took the opportunity to read the replies and add their own.

It is truly rewarding to see the diversity of positive effects created by *Active Age - Intergenerational Dialogue*. This also applies to us as the Theatre Anon Arts Foundation. We had the opportunity to meet and explore in depth the needs of a part of our growing ageing community. We learnt new creative skills that helped us connect with this community. We increased awareness, defied stereotypes, and after this, we look forward to more open, collaborative projects. The future looks bright! 

Charlotte Stafrace is a creative arts practitioner, project manager and facilitator for Active Age Malta. Active Age - Intergenerational Dialogue is a Theatre Anon Arts Foundation project funded by the Malta Community Chest fund foundation, with the collaboration of the Active Ageing & Community Care Directorate, the Critical Institute, Spazju Kreattiv, and the educational institutions: MCAST, Aġenzija Żgħażaġh, Gerontology Department (Faculty for Social Wellbeing, UM).



De-isolating an island scene

*While the Maltese art scene continues to expand and mature, questions of relevance are coming to the fore: How does Maltese art travel? Is it as insular as we think? **Nikki Petroni** looks at current research to find answers.*

Isolation is dangerous.

When people are isolated they cannot discuss, they cannot share ideas, they cannot learn.

In art, isolation is dangerous for the very same reasons.

While the romantic image of the stoic, lonely artist remains ever popular, it hides the fact that in reality this would result in work that is restricted in its exploration of new ideas or philosophies. It encourages stubborn rot to set in. It hinders an understanding of where the art stands in the bigger picture.

As an island, Malta is isolated by its very nature. Its mindset reflects this. Sometimes we think we have

little in common with everyone else.

We also have a habit of reiterating the limitations we face due to the country's dimensions. But the reality is that ideas and knowledge are not confined by physical circumstances.

We need to make a continuous effort to challenge that. We need to think of art more holistically.

While many papers have been written on 20th century Maltese art and artists, documenting their work, preserving them, and making them publicly available, we lack the discourse that permits an objective assessment of the historical context in which Malta's modern art was created.

What does the artist Josef Kalleya have in common with Europe's leading modern sculptor Auguste Rodin?

How did Gabriel Caruana directly contribute to the redefinition of ceramics as an art form? And in what ways does the evolution of cubism in Malta overlap with similar efforts in the Mediterranean, Japan, and even as far south as New Zealand?

CONTEXT IS KEY

Addressing the methods of how we discuss art is still necessary, especially at a time when we are surrounded by all manner of images and visual languages that can be so difficult to translate into words. This is not to



Josef Kalleya in his studio
 Photo from the Josef Kalleya Family Archives

When people are isolated they cannot discuss, they cannot share ideas, they cannot learn. In art, isolation is dangerous for the very same reasons.

say that it is harder today to devise ways of communicating about art than it previously has been, but there is much that is being taken for granted in a society inundated with images.

Think of all the events taking place daily during this Capital of Culture year. There is so much going on, at such an accelerated rate, that there is barely enough time to think about it critically on a personal level, let alone develop alternative ways of debating art and culture publicly. Controversial commissions from previous years are still being lambasted on the basis of their ugliness and nonsensicality, yet we do not seem to emerge from these situations.

Academia needs to focus on engendering further dialogue, critical

dialogue, that influences and interacts with the public sphere so that artistic events may evolve progressively and yearn for perennial maturity.

Trying to address this, Dr Giuseppe Schembri Bonaci (Faculty of Arts, University of Malta) began organising a series of annual modern art conferences that address a locally-significant theme with global resonances. The idea was to provide a forum for analytic discourse to flourish.

MAIN TAKEAWAYS

The first conference debated the legacy of French sculptor Auguste Rodin as confronted and expanded by sculptors from all over Europe, including Maltese artist

Josef Kalleya. Locally, Kalleya's work is not properly appreciated or understood, and the extent of his inventiveness and creativity has been systematically underrated. Kalleya fundamentally questioned the process of giving life to form on a deeply conceptual level, and he did this by developing the technique of driving a knife into clay rather than sculpting it. He also experimented with photography by creating dream worlds with the medium's realistic language. Despite being new to all the foreign participants, the overwhelming reaction was positive, and many included him in their essays following the conference.

Something similar could be said when discussing modern ceramics



Frank Portelli, *Still Life with Mask*, 1957
 Oil on canvas, private collection
 Photo by Peter Bartolo Parnis

and Gabriel Caruana's pivotal contribution to the momentous historical trajectory of art. The 20th century was one of the most exciting eras for the development of the ceramic arts within Europe, and especially the rich heritage of the Mediterranean. At the time, Caruana was an innovator who transformed the Maltese art scene with the energy and vitality of his ceramic works.

The conference *The Mediterranean Reception of Lucio Fontana's Baroque Continuum* questioned concepts of space and time, baroque principles, and contemporary aesthetics with the destruction of academically-defined beauty within this sphere of art production. The study of modern ceramics is a niche subject still in

its infancy. The papers delivered offered significant contributions to the way that the topic is dealt with historically, by studying elements of space, composition, movement, and pictorial qualities, all of which encroach on the analytic territory of painting and sculpture. Caruana's art is appreciated as imperative to the evolution of modern art in Malta, but this tends to be recognised because of his abstract idiom (a characteristic mode of expression in music or art).

Maltese modern artists Frank Portelli and Esprit Barthet were discussed in last December's event. Both adopted the cubist aesthetic and reinterpreted it in their work. As the first avant-garde movement to radicalise the vision and conception

of reality, cubism led painting down an unprecedented path of discovery. Despite its brevity, the movement created by Pablo Picasso and Georges Braque continued to cause shockwaves across the global artworld for decades because they completely changed the function of pictorial composition to that of a visually unintelligible thesis. The idiom was transformed and simplified by younger artists active in Paris at the time who developed an aesthetic termed as crystal, or crystallised, cubism.

Portelli and Barthet adapted the cubist idiom to their local experience of observing Malta's developing urban landscape and post-war cultural shifts, developing a vernacular language born from that of the influential ◀



Gabriel Caruana, *Clowns*, date unknown
Ceramics, private collection.

Image Source: Richard England, *Gabriel Caruana: Ceramics, Melfi, Libria, 2001*.

international movement. Although stemming from a deep respect for Picasso and Braque's revolution, the Maltese artist's importation of the term and style was both chronologically and conceptually distanced from its nascent form and the socio-political context of pre-WWI Paris. Portelli described his style as a form of crystallised cubism, linking him to the second generation of cubist painters in France. The situation reflects how visuals translate across cultural spaces, and the contingency of artistic meaning—when influential ideas expand beyond their place of origin.

What emerged from this gathering of researchers were several common underlying threads that relieved the Maltese scene of several lingering contentions that had been reiterated ad nauseum for about half a century. The filtered, de-politicised version of cubism that the Maltese articulated, and the reintroduction of the narrative in painting that cubism had dismissed, was present in the work of all the other artists, triggering the understanding that a difficult relationship with a major modern art philosophy was not unique to Malta.

THE URGENT TASK AHEAD

Malta's modern art can only achieve relevance if seen and studied. Professional exhibitions that reflect various trends and studies within the art works are needed on a national and international level. Support from the state and large private entities is needed to expose these works to Malta's citizens—currently many are found in people's homes.



Esprit Barthez, *Rooftops*, 1991
Oil on canvas, private collection
Photo by Emma Micallef




Nikki Petroni
Photo by Zvezdan Reljic

Yet art is presented as *de facto* important, meaning that it is inherited with a sense of authority rather than one of intimate collective understanding.

General knowledge on Maltese modern art is already very limited because the subject is not delivered to students from a young age, and current exhibition formats are not satisfactorily conceived as visual essays that both educate and entertain. The risk of alienating people from their own art history is too great, and academia relies on the cooperation of various institutional bodies to continue to evolve the level of scholarly and critical engagement.

Malta's traditional and contemporary artistic heritage is rich and there to be discovered.

Yet art is presented as *de facto* important, meaning that it is inherited with a sense of authority rather than one of intimate collective understanding. Rather than 'knowing of' art, people need to get to know art, converse with it, spend time beside it, just like meeting an old school friend with whom we share memories. These friendships behold a sense of understanding that transcends time. This is the kind of relationship we need to foster with our art and heritage, an essential link with a collective past that has shaped us as a people. 



TEXT FEEDS TEXT, FEEDS ART

A discussion on adaptation in film



Cassi Camilleri goes on a rollercoaster ride into the relationship between the Humanities and film with **Prof. Gloria Lauri-Lucente** and **Dr Fabrizio Foni**. Together, they unpack the debate on film adaptation and points of origin.

With Oscar music still ringing in my ears, I sit down to write this article. At the 90th Academy Awards just passed, *The Shape of Water* was embraced and celebrated, giving me great joy.

Every year, this celebration of film makes me think and reflect on what kind of productions are being made and shown. So-called 'original films' like *The Shape of Water*, *Three Billboards Outside Ebbing*, *Missouri* and *Lady Bird* are making waves this year, but my attention is also entertained by the steady stream of adaptations: the behemoth that is the Marvel Cinematic Universe and all of its moving parts, the weird and wonderful *The Disaster Artist*, *Call Me by Your Name*... hell, even the latest iteration of *Jumanji*.

Adaptation in film is a strange beast. Production houses favour it because of the pre-existing audience that comes with it. Fans of the original work are either thrilled to see their precious stories reimaged, or filled with heavy dread for the very same reason. Critics, professional or otherwise, share similar sentiments.

When the film is finally unleashed onto the world, comparison and critique follow close behind. The

now-clichéd quip—'the book was better'—has to be uttered by someone at the cinema within two minutes of the credits rolling lest the universe should implode. All of this brings forth a plethora of questions: What is adaptation and what isn't? What happens to a text when it is adapted? What is the role of adapted works in art and film?

To answer these questions, I sat down with two of the University of Malta's researchers in the matter; Prof. Gloria Lauri-Lucente and Dr Fabrizio Foni.

THE MERITS OF MEDIA

The duo hail from very different backgrounds. Lauri-Lucente, is a lover of the Humanities in all its shapes and forms. In fact, she developed two programmes focused on the intersection of film, literature, and the visual arts; the first is the Master's in Literary Tradition and Popular Culture, the second is the MA in Film Studies. Foni meanwhile is a cinephile and comic book nut in equal measure.

Both are walking repositories of knowledge that, not so long ago, was looked down upon, sneered at by scholars and academics the world over.

Telling me about the very similar inceptions of film and comics, Foni notes how in their infancy, 'Both were very neglected media.' Lauri-Lucente nods in agreement: 'They were both considered inferior relatives,' she says. 'But it took a longer time to acknowledge comics as an art form,' Foni continues. Even now, however, with comics being widely accepted in the art world, the road is still treacherous. 'Some scholars are almost afraid of using the term 'comics' to actually describe comics. You now have terms like 'graphic novel', 'sequential art' and so on and so forth. But there is nothing wrong in calling them comics. Even if cinema today is digital, a film is called a film because of the 'stuff', the material, from which it was originally made. I think that we cannot focus only on those graphic novels which are considered as an art form because

Both are walking repositories of knowledge that was not so long ago looked down upon, sneered at by scholars and academics the world over.



Still from *The Shape of Water* (2017)

a great novelist one day woke up and decided to script write a graphic novel.'

This explains something about the derision that adaptations experience. Newer art forms cannot hope to be judged with the same respect as their more traditional counterparts.

In a world where media practically engulfs us, it is easy to be lost in that forest, unable to see the wood for the trees and work through it.

How can a film ever compete with a book? How can graphic design ever be 'as good as' painting?

HALF-BAKED DEALS

When it comes to adaptations, the two researchers have their fingers in many different pies. 'We're interested in

adaptations, with the term very broadly construed,' says Lauri-Lucente, 'Literary texts metamorphosed into cinematic ones, cinematic texts that inspire literary texts. Comics. Paintings. Design—we're interested in the metamorphic nature of adaptations. How a text is transformed and takes on an entirely new shape.'

The debate that really has them talking is the notion that in adaptation, the point of origin disappears entirely. 'Both of us, in our different ways and in varying degrees, seriously question the concept that origins can vanish and no longer be traced,' says Lauri-Lucente.

What happens to the story when it moves from one context to another? When it shifts, spatially and temporally? 'Despite all the changes, despite all the permutations, the spectre of the original will still linger on, and haunt what comes after it,' Lauri-Lucente says.

'If you cannot trace back the source, it is not adaptation,' Foni notes. And yet, despite the belief in origins, quoting Fredric Jameson, Lauri-Lucente says that in an adaptation, filmmakers can actually breathe an entirely different spirit into their films.

While acknowledging the importance of differences between the inspiring text and its filmic adaptation, the

duo also quickly clarify that 'fidelity' to the original work is not what they seek. Or rather, fidelity should not be an evaluative measure. While film is sometimes erroneously considered 'less complex' than a literary work, this is only because of the perceived immediacy, says Lauri-Lucente.

'We do not see everything in the frame. It can evoke images that lie outside it... the *hors-champs*,' she says, quoting Deleuze. The questions a film can raise are as numerous as they are complex: What lies beyond the screen? What are the sound strategies deployed? How do they clash with the image? Just think about the way sound and image are used in the famous shower sequence in *Psycho*, the grating sounds accompanied by the rapid intercutting of shots as the knife is brought down onto Marion Crane's body. 'Even the most lavished, stylised *mise-en-scène* of such heritage films as *Howards End*, *A Room with a View*, and *Where Angels Fear to Tread*, all inspired by E.M. Forster's novels, harbour inner turmoil and conflict below their glossy surface. Viewers should look beyond and beneath what they immediately see,' Lauri-Lucente says.

This is where the importance of



Dr Fabrizio Foni



Prof. Gloria Lauri-Lucente
Photo by James Moffett

an overarching perspective comes in, one that is open to intertextual influences and contaminations, while keeping in mind the specificity of cinema as a distinct art form.

‘Yes, with cinema, we need to understand its workings and its language—we have to be knowledgeable about the subject—but we need to keep our view as wide as possible when discussing cinema and its relationship with the visual arts, as well as all the other art forms. How can you discuss Antonioni’s *Red Desert* without also discussing the paintings by Antonio Burri or Giorgio Morandi? How can Freud’s influence on Fellini’s *Otto e mezzo* be overlooked?’ questions Lauri-Lucente. ‘We have to be cross-eyed scholars,’ laughs Foni, ‘We keep an eye on one track, but we also need to keep an eye on countless others. If you cut off a thread, the whole spider web is destroyed.’

We have to be more holistic in the way we look at the artwork. Taking into consideration what informs the product. This is the mantra which permeates their teachings. The two colleagues express their efforts to get students to immerse themselves as much as possible in any kind of art. They also worry about the trend that young

people seem to be surrounded by art, and yet consuming less and less of it at the same time. ‘What scares me the most is the fact that some students, despite how easy it is to find things these days, refrain from searching,’ notes Lauri-Lucente, ‘Sometimes tending to stick to the mainstream.’

In a world where media practically engulfs us, it is easy to be lost in that forest, unable to see the wood for the trees and work through it.

REFLECTIONS

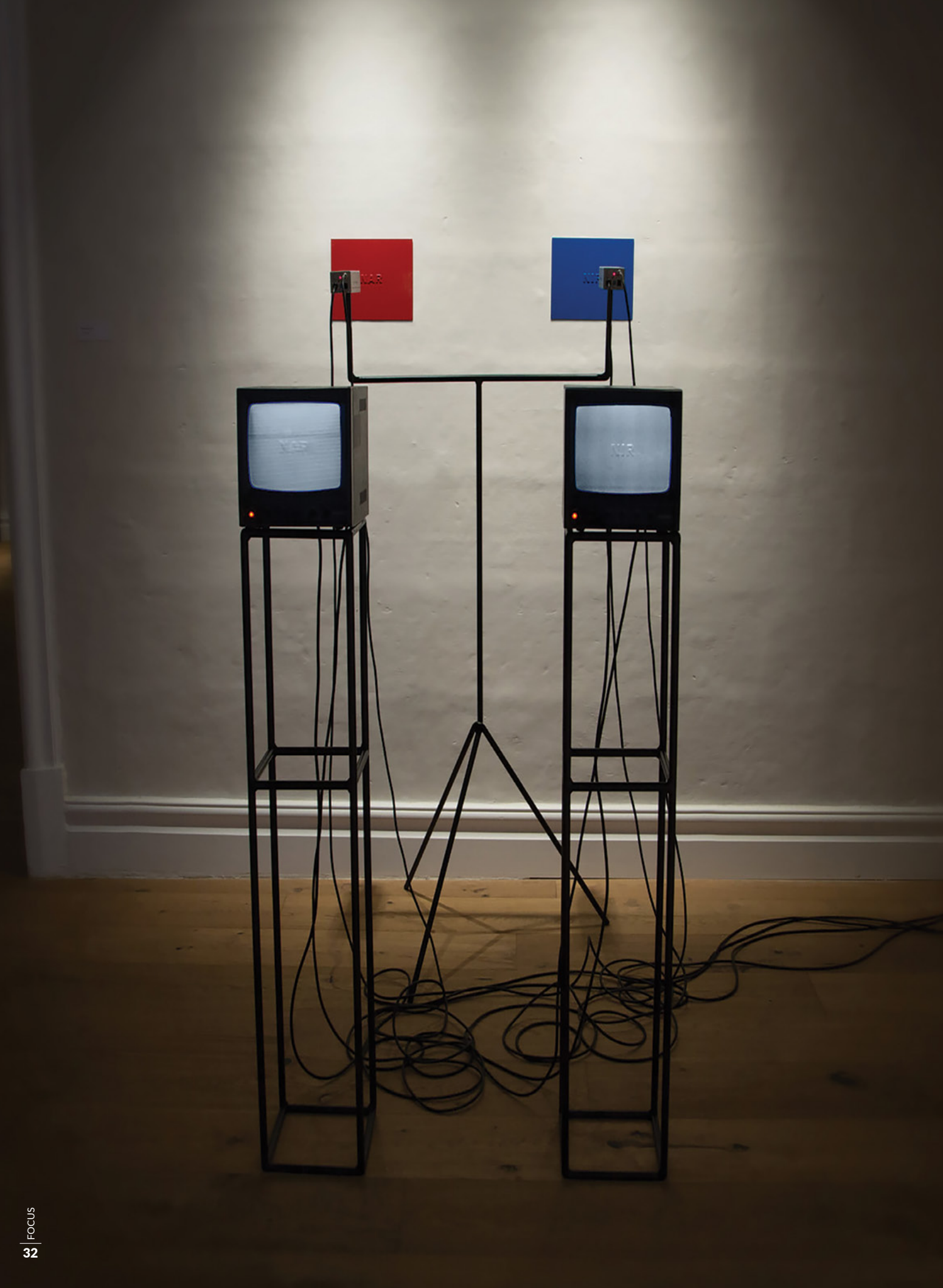
When looking at different art forms, comparison is necessary. The need to question is essential. ‘One cannot refrain from a comparative approach,’ says Foni. ‘I was harshly criticised by some Italian scholars, as most of my published work has aimed to challenge the denial of the existence of an Italian fantastic literature geared towards the broadest possible audience, which offered a type of fantastic analogous to that of pulp magazines, dime novels and penny dreadfuls. This is the case of many short stories and novels published by popular magazines such as *La Domenica del Corriere* and *Giornale Illustrato dei Viaggi*.’

But it did exist, and was quite successful. ‘It’s a lowbrow kind of

fiction,’ he adds, ‘but the run of these publications is amazing. They were immensely popular. They were anticipating cinematic language, motions, trends, philosophical issues.’ This thought brought the conversation back to perception and elitism in art which seems to be common, if not prevalent.

When I ask why they choose to dive into such dangerous waters, Lauri-Lucente has a revealing answer: ‘Perhaps we’re masochists.’ She laughs and then goes on, ‘Why do we ask all these questions? Well, it’s the only way you can breathe. It provides us with oxygen. I wouldn’t know what to do with myself if I didn’t.’ Invoking the world of *Blade Runner 2049*, she says, ‘I would not like to live in that type of ambience where everything becomes mechanical. Where there is no place for the interaction of ideas. It would be a very dismal, colourless world, wouldn’t it?’ **T**

For information on the MA in Literary Tradition and Popular Culture and the MA in Film Studies, offered by the Faculty of Arts (UM), please contact programme coordinator Prof Gloria Lauri-Lucente here: gloria.lauri-lucente@um.edu.mt



My work centres on the co-existence of dualities. It treads blurred borders and investigates uncertain divides between opposing poles. It synthesises extremities and acts as a seam that binds together disparate realities. Uncertain of its own actuality, it questions its own being.

Prof. Vince Briffa - Artist statement

CONFRONTATION CARICATURISED

Prof. Vince Briffa peels back the layers of his latest works to reveal his thoughts on duality, confrontation and caricaturisation and how he translates them into art.

There are two sides to every question, exactly opposite to each other,' wrote Diogenes Laertius when quoting Protagoras in *Lives and Opinions of Eminent*

Philosophers. This makes us consider human nature's propensity of thinking in dichotomies.

Our tendency is to divide humanity and its traits into stereotypical pairings: 'us and them', 'good and bad', 'love and hate'. But this does away with the rich profusion of shades of grey within a spectrum which is bound by a further concocted ideological construct for determining what is extreme black or pure white. How does one define colour in absolute terms?

The epigraph, taken from my artist statement, provides the anchor that underpins my practice. This duality acknowledges the sundering 'wasteland' in-between as an opportunity for unshackling, rather than a constraining threat, opening up the work to questioning. It also allows the work to embrace the many truths bound by dogmatic extremities, even to the point of representing the same confronting polarities' flagrant absurdity through caricature.

This ongoing preoccupation with the *in-between* has dominated my work for years, but

has become more evident in the last decade. In 2011 I showed an exhibition of drawing-paintings, photography, and video fittingly entitled *Terrain Vague*, at the upper galleries of Spazju Kreattiv, St James Cavalier in Valletta. My most recent body of installation art work, which I collectively refer to as the *caricaturisation of confrontation*, seeks to reflect on and further deconstruct this condition.

Nar-Nir (for AB) was the first work created in this series. Its modest, modernist aesthetic, together with its silent presence belies the fact that this work thrives on continuous surveillance—CCTV cameras endlessly inspect the two immovable panels of colour. Due to the lack of movement on the two monitors facing the audience, the distressing intimidation normally felt when one is under Big Brother's scrutiny is revoked. The work is a comment on our inclination to gravitate towards extremes, particularly zoning in on the Malta's strong political divide of red and blue. Through what can be poetically described as a *mediatic* silencing, switching from colour to grayscale, the work becomes a metaphor for how both extremes are indistinguishable when reduced to their fundamental monotone. Like the impossibility of holding a private conversation in a noisy room, the installation's constraining



Prof. Vince Briffa

framework drowns the colourful attributes *Nar* and *Nir* (respectively, the absolute adjectives of the red and blue colours in the Maltese language) in voiceless obscurity by divesting them of their dominant characteristic—the vibrancy of their hue. *Nar-Nir* turns us into colour-blind observers, depriving us of all meaning and neutering all cultural colouring that has taken civilisations millennia to garner.

Nar-Nir (for AB) also acts on an art historical level by referencing post-war conceptual artist Alighiero Boetti's (AB) concern with colour and language structures in his body of work *I Colori* (1972), similarly appropriating the typical material criteria of the new redefinition of art, particularly sculpture and installation of the 1960s. The work mimics the material reconditioning of Boetti's work through a similar use of pre-fabricated lettering, commercial signage, plastic panels, and automotive paint, albeit to arrive at a different

meaning. *I Colori*'s original intention was to redefine colour through meaning extracted from contemporary society's cultural artefacts as commodity fetishism—the collective belief that it is natural and inevitable to measure the value of useful things with money. Alternately, *Nar-Nir* exposes the quiet depletion of the not-so-commonly used colloquial superlative adjectives through draining of colour, in order to represent the unwary impoverishment of the Maltese language.

The second work in the *caricaturisation of confrontation* series is the interactive sound sculpture *Paned Window* (*Min hu barra, barra u min hu ġewwa, ġewwa*), a site-specific work based on research in three-dimensional audio interaction and agency. The work was funded by the University of Malta's Research, Innovation and Development Trust and shown between December 2017 and February 2018 in an exhibition entitled *White Memory - 1989/2018 Art in Malta and Poland*, curated by Marinella Paderni and Irene Biolchini.

Similar to *Nar-Nir*, the installation is driven by constant monitoring, this time of the gallery walls' vibrations and their source, as experienced through the window pane of the gallery that looks out onto Valletta's main thoroughfare. The result is a complex real-time translation into sound, expressed through an array of eighteen speakers that confront each other. Viewers walk within the space and not only experience the space's reaction to their movement, but also contribute to the everchanging soundscape through their very presence.

On a conceptual level, the *window* metaphor has been central to the history of art, from Leon Battista Alberti's use of the analogy with the emergence of linear perspective in the early 1400s, to today's multi-dimensional 'window' arrangement that permits navigation of the non-Euclidean realms of cyberspace. The window also physically separates the outside from the inside. As Anne Friedberg tells us, 'it opens, it closes; it separates the spaces of here and there, inside and outside, in front of and behind.' Its thin pane of glass gives us hope, and provides us with a (sometimes false) sense of security.

Like the soft shafts of light painted by Vermeer, or the dappled pools of light entering the magnificent stained glass windows of Chartres Cathedral, the work upsets the feigned stability of the inside-out distinction. It exists by feeding equally on the casual and the causal activities happening both within the walls of the gallery as well as in the public space of the city outside it. *Paned Window* also acts as a metaphor for the disconnection between the art world and everyone else. Despite the persistent carelessness these two worlds have for one another, their overlapping complexities would fade into complete silence if this fragile stability is disrupted. Perhaps the frailty of the glass pane can never really dampen the pain of separation except in the safety of our passive memories.

A third interactive installation is still a work in progress. In a way, it synthesises the other two works through its use of sound and language. *Fomm ir-Riħ*, composed of four ➔



Prof. Vince Briffa, **PANED WINDOW**
(Min hu barra, barra u min hu ġewwa, ġewwa)
Interactive sound sculpture
White Matter exhibition, Spazju Kreattiv, Valletta, 2017



NAR-NIR (for AB),
Close-Up detail




PANED WINDOW,
Close-Up Detail

Perhaps the work also acts at a more playful level, questioning the ultimate destination of language, symbolised by our own speech.

speakers confronting four wind fans, is a work in collaboration with philosopher and curator Dr Clive Żammit. The project presents a dynamic dialogue between four artists and four curators, in response to four writings by main curator Niki Young.

Similar to *Nar-Nir* and *Paned Window*, *Fomm ir-Riħ* is pitched at multiple conceptual engagement levels; its aesthetic separates the two main components of the spoken word. The sound and the wind confronts them, revisiting the divine notion of the word as the breath of life. The work also challenges the power of the word and plays on the way we conceive confrontation. Perhaps the work also acts at a more playful level, questioning the ultimate destination of language, symbolised by our own speech. Playing

with the science behind this issue, it questions: 'If our spoken word, as sound waves, are reflected, refracted and ultimately decay, having their energy dissipated as heat, what happens to this heat when they are met with a cooling fan that is activated every time a word or phrase is uttered?' 

Note: *Fomm ir-Riħ* will be shown at an exhibition entitled *Metafourisms*, at Spazju Kreattiv in Valletta in May 2018.

Read more:

Frieberg, A., *The Virtual Window: From Alberti to Microsoft*, MIT Press, 2009

<http://researchtrustmalta.eu/blog/three-dimensional-audio>

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Of art and interpretation

Interviewed by **Prof. Raphael Vella**, local artist **Aaron Bezzina** gives insights into what has shaped him and his work.

Prof. **Raphael Vella (RV)**: You're still young, yet you've already shown your work in a number of important international contexts. Did your passion for art begin when you were still a child? Who or what led you to start taking art so seriously?

Aaron Bezzina (AB): Art started out as an interest when I was young. I wouldn't say it was a passion back then, as I was only accustomed to elementary drawing and playing around with plasticine. I wouldn't even consider these things as art these days. At around the age of 18 I started my first official art education, which eventually led to a Bachelor of Arts in Fine Art and later a Masters in Digital Arts. The more I was able to learn about what art is and what it could be, the more I realised how far I could push myself. As far as seriousness goes, I feel that I cannot take anything as seriously as I take art. Yet, paradoxically, art allows me to undermine the whole idea of being serious about something in the first place.

RV: When did you begin to find your own artistic 'language'? What social or educational factors influenced your growth as an artist?

AB: What I consider to be the first contribution to my body of work came in 2012 when I was selected

to participate in a collective exhibition. Everything else I produced after that fed into my practice. What I have learned is that there are several branches my work could be categorised into, and that anything I make falls under one or a combination of them. Since I allow my work to move freely, new categories emerge. I would say that each category is formed of a collection of rules that the work (loosely) abides by.

To a certain extent, my academic studies have also moulded the way I approach my practice. Sometimes I react directly to certain methods I learnt, or embrace other 'unorthodox' forms. While I think that one could still identify my work by some common traits in visual and conceptual terms, these are not absolutes. Therefore, I do not think I have found my artistic 'language' yet.

RV: You tend to exhibit mainly sculptures, 'gadgets' or installations that make use of various media like wood and metal but you occasionally work in two-dimensional media and video too. Do you consider yourself to be primarily a sculptor?

AB: I would consider myself a sculptor as I tend to acknowledge and work with the sculptural aspects of any medium, however 'flat' it may appear to be. That being said, I'm not particularly concerned with this form of labelling. 📍



Aaron Bezzina, A GOOD CONVERSATION PIECE, 2015
 Cast acrylic, vinyl, fluorescent light, aluminium, steel, paint, galvanised steel cable, stainless steel turnbuckles, 3 core sheathed electrical cable, timer.
 Photo by Aaron Bezzina



Top: Aaron Bezzina. Photo by Aaron Bezzina
Bottom: Prof. Raphael Vella. Photo by James Moffett

The idea of using wood/metal to create sculptures was the product of necessity, efficiency and resourcefulness. The fastest, cheapest and easiest way to convey and manifest the ideas at the time was to create them from scavenged material.

RV: In 2017 you were one of the artists who represented Malta at the Biennale in Venice, with a 'crucihammer' in a small wooden room. What inspired this work and how does it relate to other works of yours?

AB: The urge to create this seemingly absurd object came from the possibly banal idea of merging those two objects; the crucifix and hammer. I intuitively sketched it out, then jumped into manufacturing straight away, leaving the task of figuring out how the work would operate within the world for later.

I later realised that I was exposed to the notion of using a crucifix as a hammer in a documentary I had watched about 'Error Management

Theory.' The theory purports that the anxiety caused by mortality is a major motivator behind many human behaviors and cognitions, including self-esteem, ethno/religio-centrism, and even love. The documentarians tested this with a set of participants who were asked to hang a crucifix in the room they were in. However, all they were provided with was a nail, thus the crucifix itself needed to be used as a hammer to drive the nail into the wall. Subjects who were more anxious about death and held beliefs related to the item were much more reluctant to complete the task. My work was not created as an immediate reflection of this theory, although I would acknowledge any possible links.

I think that *Untitled (crucihammer and nail)* would be viewed as a progression and elaboration of my series that relates to the body, usually manifesting in contraptions made out of wood. This is also an aesthetic experiment since the object is polished and refined to a high degree, and

by using precious materials, in this case gold, it becomes an object of desire. This is very different from the other contraptions that are usually created from scrap wood and other raw or cheap materials.

RV: For you, what was the significance of making members of the public enter this tiny chamber through a curtain in order to see your work in Venice? What kind of feedback did you get about what they saw inside the room?

AB: I think the enclosed space allowed the viewer to have a more solemn experience of the work, making it appear to have a spiritual dimension. The lighting enhanced this as well. When people entered the room it allowed them to slow down and focus on one object with no other visual cues and distractions. We are accustomed to behave in a contemplative manner when situated inside or in front of a niche. I also noted that people were compelled to whisper whilst behind the curtain and in front of the work.



Aaron Bezzina, *Untitled (cruci-hammer and nail)*, 2017
Gold-plated bronze and wood
Photo by Aaron Bezzina



Aaron Bezzina, *FTF*, 2015
Wood, steel wire, string, wheels and paint
Photo by Aaron Bezzina

RV: The 'cruci-hammer' and a number of other recent works of yours look fetishistic or religious in inspiration, though it's easy to see that your approach is quite distinct from that of earlier generations of Maltese artists, for whom religious themes came across as a more direct reflection of faith. What attitude toward religion do your works convey? In your view, is there a space for religion in contemporary art and society?

AB: The connotations of the 'cruci-hammer' could be regarded as a criticism of Catholicism, implying that religion has negative consequences. What I am mostly interested in is the irony that such an object brings forward: firstly as an object reflecting on itself, and secondly how religion (or individuals within it) is riddled with ironic instances that undermine what it preaches.

In an ideal scenario, there would be no religion as it causes more division and hate rather than understanding and compassion. I think that religion

is an idea belonging to the past. Contemporary art allows us to take an analytical but distanced stance on this situation. However, chances are that the outcome is almost always an ironic one. I would not encourage engagement with such subject matter though, as by choosing it it assumes the kind of importance it might not deserve.

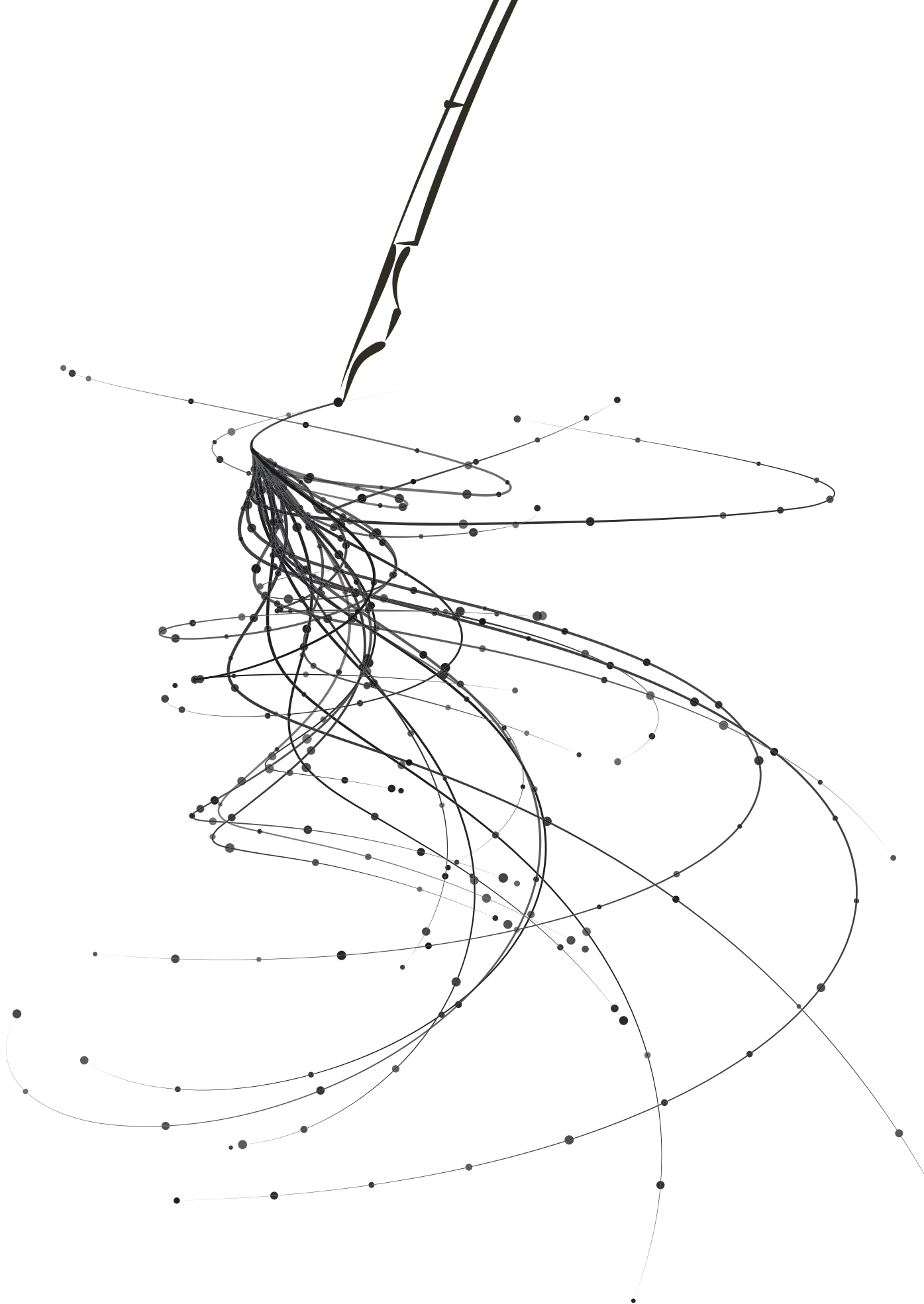
RV: What about your use of language in some works like *A Good Conversation Piece*? What connection, if any, do you see between your conceptual use of words in some pieces and your more hand-crafted objects in wood and metal (like *FTF*, for example)?

AB: As I have mentioned, these two works fall under two categories: *A Good Conversation Piece* forms part of a series dealing with text-based work and a play with language, while *FTF* pertains to a collection of work that shares similar aesthetic qualities—these

tend to be structural contraptions that relate to the body and are 'anti-interactive,' intended to be engaged with mentally but not physically.

The connections between these two might not be immediately visible, however certain underlying themes are always present despite the different modes of creation. For instance, both works could be viewed as jokes at the viewer's expense: the first as a self-congratulatory statement and sarcastic remark, and on the other hand, if *FTF* were to be operated by pulling the lever, the log with the carved smiley face would bash into the viewer's face (hence the acronym to 'Face To Face').

I prefer to see my practice as one organism. Each work, distinct as it may be from the next, still forms part of a larger thing. Looking in retrospect, I can understand my works better in relation to each other, making me think of the decisions taken to manifest an idea—and how it could be done better the next time. **📌**



Letters, Networks, and Revolutions

Scholars and digital technologists are developing new tools to study the exchange of letters amongst past intellectual networks that shaped European ideas, values, and institutions.

Dr Jean-Paul De Lucca writes.

Johannes Gutenberg's invention of the printing press in the mid-15th century unleashed a revolution by facilitating the circulation of ideas, information, propaganda, and discoveries like never before. Knowledge was democratised as it moved beyond the confines of traditional seats of learning to reach wider audiences. Authors of philosophical, scientific, theological, literary, philological, and historical works had greater and easier access to a broad array of sources that influenced their own works, and they, in turn, influenced the works of others. The surge in production and dissemination of printed books and pamphlets spurred and shaped the great developments of early modernity, from the Reformation to the scientific revolution.

Running in parallel with the printing revolution was another, often overlooked revolution: that in postal communication, which allowed

scholars and scientists to establish a virtual community that became known as the *republica literaria*, or the Republic of Letters. The collections of letters of great luminaries, including those who have since been relegated to the darker corners of history, played a crucial role in Europe's intellectual and cultural developments between 1500 and 1800.

THE POWER OF LETTERS

Scholars and students of the history of philosophy and science have generally relied on books as their preferred mode of presenting, commenting and connecting ideas. In recent years, however, intellectual history has focused increasingly on the context in which such ideas emerged and on the originators' biographies. This gradually paved the way for collaborative projects looking at the relationships and activities of groups of thinkers. Known as prosopography, this analysis of collective biography has developed into a valuable methodology

in the study of early modern societies.

A broader viewing of the intellectual networks that grew from the 1500s onwards sheds light on the cross-fertilisation of ideas resulting from such relationships. As historians became more aware of how relationships were forged through epistolary exchanges that transcended physical boundaries (whether faraway countries or prisons), intellectual history and intellectual geography intersected at the understanding of the past in terms of both time and space.

Letters have gradually gained prominence as valuable primary sources. They occupy a unique place in exchange networks at a time when printed books were often subject to censorship or self-censorship. One famous example concerns a major text in the history of modern philosophy—René Descartes' *Meditations on First Philosophy* (1641). Keen on avoiding a backlash, the French philosopher decided to seek the formal approval of theologians from the Sorbonne

before its publication. Although ostensibly dealing with metaphysics and theology, we now know through a private letter that Descartes' intention was to smuggle in his physics, which, like Galileo's, opposed the prevalently accepted physics of Aristotle. Writing to Marin Mersenne from Leiden on 28th January 1641, Descartes confided in the friar-mathematician that 'between us, these six *Meditations* contain all the foundations of my physics.' He then begs him not to say a word about this, for it would make it harder to obtain the approval of 'the supporters of Aristotle'. This letter leaves no doubt about Descartes' true intentions, and provides a crucial interpretative key for reading and interpreting the *Meditations*. In those same weeks, Descartes engaged in an intense correspondence—through the Paris-based Mersenne—with the English philosopher Thomas Hobbes, who had decided to exile himself to the French capital. An edited version of that correspondence came to light some months later as the third of a series of

objections and responses published as an appendix to the *Meditations*.

The contents of thousands of letters—many of which were never intended for public consumption—do not only provide us with precious information and insights that enhance our understanding of their authors' works and ideas. Some of them also share ostensibly more mundane information about their personal lives or seemingly minor events (such as the burning down of someone's library, or personal disputes). Even then, important nuggets of information are to be found. Machiavelli's private letters to Francesco Vettori, for instance, are peppered with gossip, reports on the author's sexual exploits and rather demeaning insults towards common acquaintances. One of these letters, however, provides an important clue for dating *The Prince*.

The dating of works is just one of the many reasons why epistolary collections are a wealth of information. Letters often indicate the location of their authors and recipients at the time of writing. They also suggest the

approximate time it would have taken the letters to reach their destination. All this information has proven extremely useful to the scholars putting pieces of the puzzle together. The long exchange of letters between two protagonists of early modern science, Galileo Galilei and Johannes Kepler, is a case in point.

Their letters have been resting in archives for centuries and have also been published in edited volumes.

The two thinkers had been corresponding for quite some time when on 9th August 1610, Kepler wrote to Galileo informing him of an astronomical observation he made using a borrowed telescope. In the same letter, he asks Galileo to send



Left:
Louis-Michel van Loo,
Portrait of Denis Diderot, 1767

Right:
Dr Jean Paul De Lucca
Photo by James Moffett

over one of his own telescopes. This letter had taken less than ten days to reach Padua from Prague, because on 19th August, Galileo sent a reply, telling Kepler that he had no telescope available at that moment. He did assure him, however, that he planned to build others after his impending move to Florence to become the Mathematician and Philosopher of the Grand Duke of Tuscany. How could letters reach their destination in such a short time in 1610? The answer lies in another letter that suggests that Galileo was at the time availing himself of what is today still a fast and safe postal service: the diplomatic bag. The Florentine ambassador to Prague, Giuliano de' Medici, wrote to Galileo on 6 September 1610 to inform him that he had handed Galileo's letter to Kepler. We also learn through Giuliano's letter that Kepler was willing to replace Galileo at the University of Padua, a move that never materialised.

BIG DATA TO THE RESCUE

The sheer volume of letters dispersed in countless archives across

Europe makes it difficult to gain insight into the broader picture of the real network of intellectual connections at any given time in the early modern period. Throughout the last century, some historians of philosophy and science, as well as archivists, have gone through great pains to trace, identify, and collate entire epistolary catalogues and collections.

In the pre-digital age, the arduous task of letter-hunting relied exclusively on physical archival research and resulted in print publications of collections of letters. It was generally a solitary enterprise carried out on the fringes of individual scholars' research interests. Reassembling these letters, as it were, could hardly illustrate the broad and dynamic environment of exchange they had created centuries ago. Printed transcriptions and facsimiles are often presented in chronological order but fail to capture the spatial dimension that includes, for instance, the epistolary exchange running in parallel between recipients and their other correspondents. The network of connections is simply

impossible to visualise and understand through print editions, not least because the partiality and selectivity of indexes limits their searchability.

The information on Machiavelli, Galileo, Descartes, and many others is not new. Their letters have been resting in archives for centuries and have also been published in edited volumes. The novel approach lies in the fact that this information is being gradually brought together on online platforms. The digital revolution proved a great asset in this mission. If I wish to pick names or words in the letters by philosophers such as Erasmus of Rotterdam, Hugo Grotius, Tommaso Campanella, or Jan Amos Comenius, the metadata in the digital editions of their letters on dedicated websites now works for us in ways that print editions never could. The emergence of digital humanities as a collaboration between the humanities and ICT experts has led to increased access and efficiency in archival research. It has also paved the way for new research questions and opened avenues for further development of new scholarly



Network map
by Scott Weingart
Data from Cultures of Knowledge, Oxford

Over the past four years, six working groups have addressed different aspects of the Action's agendas.

methods based on multilateral collaboration. One key feature of digital technology is that unlike print editions, the temporal and spatial elements can be brought together and understood at the click of a button.

REASSEMBLING THE REPUBLIC OF LETTERS

Reassembling the Republic of Letters (COST Action 1310) is a collaboration that brings together humanities and digital communication technology researchers from 33 countries. Their goal is to develop an open-access, open-source, transnational digital infrastructure capable of facilitating the radically multilateral framework needed to reassemble the scattered sixteenth to eighteenth-century epistolary documentation, and to support a new generation of research questions and scholarly methods.

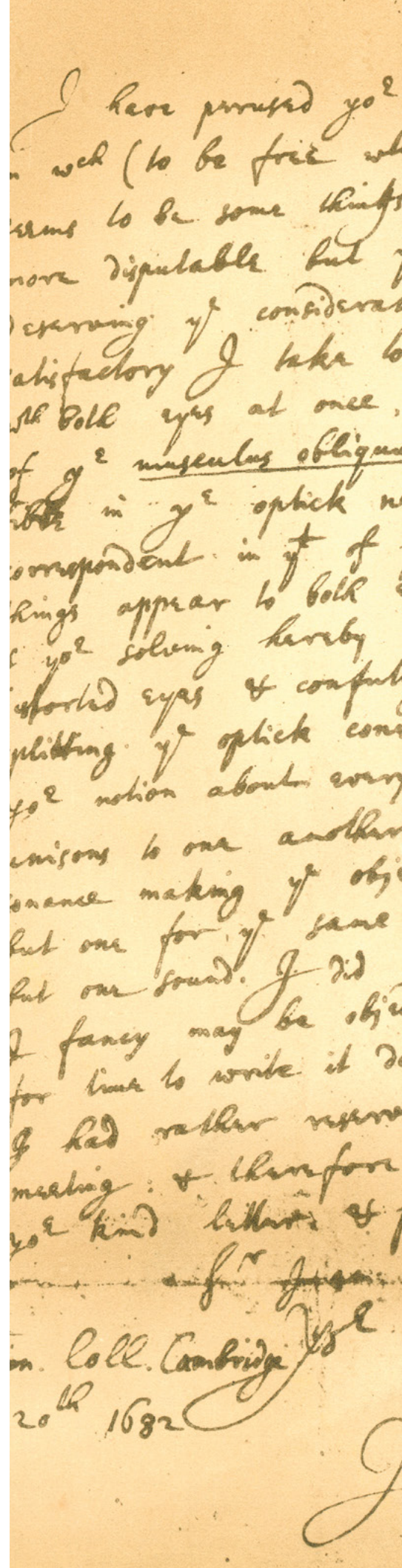
The project relies on the expertise of leading scholars working on individual authors and collections, as well as the cutting-edge capabilities being developed by digital technology specialists. It provides a space for this diverse community to interact by sharing their knowledge and respective 'languages', as well as their research questions and concerns.

The objectives are twofold. On the technical plane, we are developing a state-of-the-art digital system within which to collect the data on the Republic of Letters, sourced from across Europe and beyond.

This system requires designing new technological tools for standardising, navigating, analysing, and visualising large quantities of data. In turn, these efforts feed into the historiographical agenda which aims to engage with emerging technology and raise the research questions required to design the infrastructure and devise new methods.

Over the past four years, six working groups have addressed different aspects of the Action's agendas. Several conferences were held where the groups came together to address some key stumbling blocks, ranging from cross-platform compatibility and visualisation models, to searchability issues resulting from name variations (Jan, Johann, Johannes, Ioannes) and the very basic question of what material should be included within the epistolary genre.

The networking is open-ended. While relying on previous scholarship and developing its own innovative outcomes, the Action has served as inspiration for individual scholars and institutions to collaborate with each other on the digitalisation of entire collections of letters. The promotion of crowdsourcing among researchers in the field is really the reason why tools and standards need to be developed in the first place. A research group working on the correspondence of any given early modern philosopher or scientist will be able to contribute with far greater



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much obliged & k
servant
S. Newton.

Isaac Newton's letter to Dr. William Briggs, commenting on Briggs' "A New Theory of Vision", June 20th 1682
British Museum

ease to the virtual reassembling of the *respublica litterarum*.

The development of scholarly methods and standards, together with the opportunity to network with colleagues working on different sets of correspondence, is proving important for my own work on the Italian philosopher Tommaso Campanella (1568-1639). Campanella's 172 surviving letters were published in a printed volume, edited by Germana Ernst, in 2010. A digital edition (edited by Annarita Liburdi), based on this print edition, has been recently made available on the Archivio Tommaso Campanella (ATC), a digitalisation project of the Italian National Research Council's Istituto per il Lessico Intellettuale Europeo e Storia delle Idee (ILIESI, CNR) with which I have been collaborating for several years. My role will now be to coordinate the integration of Campanella's letters available on the ATC into the union catalogue of Early Modern Letters Online (EMLO), an ongoing project of Cultures of Knowledge, a collaborative research project based at the University of Oxford.

Networking in the field of epistolary exchanges could also open new avenues for research closer to home. Early modern Malta was a European microcosm, where both individual members of the Hospitaller Order of St John resident on the island and the Maltese educated class maintained

a steady flow of correspondence within and beyond the island's shores. These included the geologist and knight Deodat de Dolomieu, and Maltese scientists and intellectuals such as Giuseppe Zammit, Ignazio Saverio Mifsud and Giovanni Pietro Francesco Agius de Soldanis.

The Action's final conference was hosted by the University of Malta at its Valletta Campus earlier this year. Entitled *Publishing the Digital Republic of Letters: Systems, standards, scholarship in the context of an enhanced publication*, it brought together the outcomes of the last four years of collaborative research, and finalised the work on a comprehensive enhanced publication that promises to serve as a first blueprint in this new and exciting field of digital humanities research.

The standards, tools and infrastructure developed in the Action pave the way to a better understanding of other periods and regions, and to other genres of exchange. This unique multilateral model for telling data-driven, highly visual and interactive stories on early modern Europe's transnational intellectual history will also enhance a shared level of European identity. The question that remains is: where do we direct our attention to next? **T**

Read more:
COST Action IS1310 website:
www.republicofletters.net



WHERE DOES IT GO?

A snapshot of waste management in Malta

*As the 'no waste' movement becomes a trend and a force for good, **Margaret Camilleri Fenech** turns the magnifying glass on Malta to assess the local scenario.*

The topic of waste is not much loved. In the early 2000s the problem became clear in Malta when the term 'mini Magħtab' was local slang for any pile of rubbish. At the same time the authorities realised Magħtab could not grow any higher. Malta's 'mountain' had literally reached its peak.

The hype, backed by extensive EU legislation, led to the decommissioning of the Magħtab landrise in 2004, together with the erection of an entrance gate, the establishment of a disposal fee, and a statistical database that tracked waste production. We also saw various facilities introduced, including civic amenity and bring-in sites.

Man-made waste generation has exploded in the last 30 years, having an unprecedented impact. A major problem is one-way products like milk and fruit juice in Tetra-Pak bottles, disposable shaving blades, and countless other non-durable items that, years after they are disposed of, can still be found in our landfills. For Malta, this presents a challenge with no straightforward solutions.

Littering spoils both the countryside and sea shores, while waste treatment is land intensive, creating conflict. Finding suitable locations for waste treatment facilities is a major

headache, often digging up deeply-rooted political divides and a sense of indignation related to 'not in my backyard' syndrome. The physical separation of our islands from mainland Europe limits our recycling capacity and resale opportunities, meaning that recycling companies incur higher costs to transport materials—an island problem.

The waste cycle is taxing—environmentally, socially, and economically. Economic costs are obvious and salient in the taxes spent by the government to run the whole operation on a daily basis. Environmental costs include air and sea pollution, including carbon emissions, together with negative effects on biodiversity and aesthetics. On a social level, citizens suffer the foul smells from treatment facilities and the nuisance caused by collection trucks. All of these issues means that treatment methods cannot be looked at in isolation. What is needed is a holistic, cradle-to-cradle (regenerative) approach, starting from the product inception until it is disposed of and, in some cases, recycled.

In a bid to amplify the conversation, we have conducted research that defines the existing flows in local waste management. Using material flow analysis (MFA), we have been able to generate a detailed picture

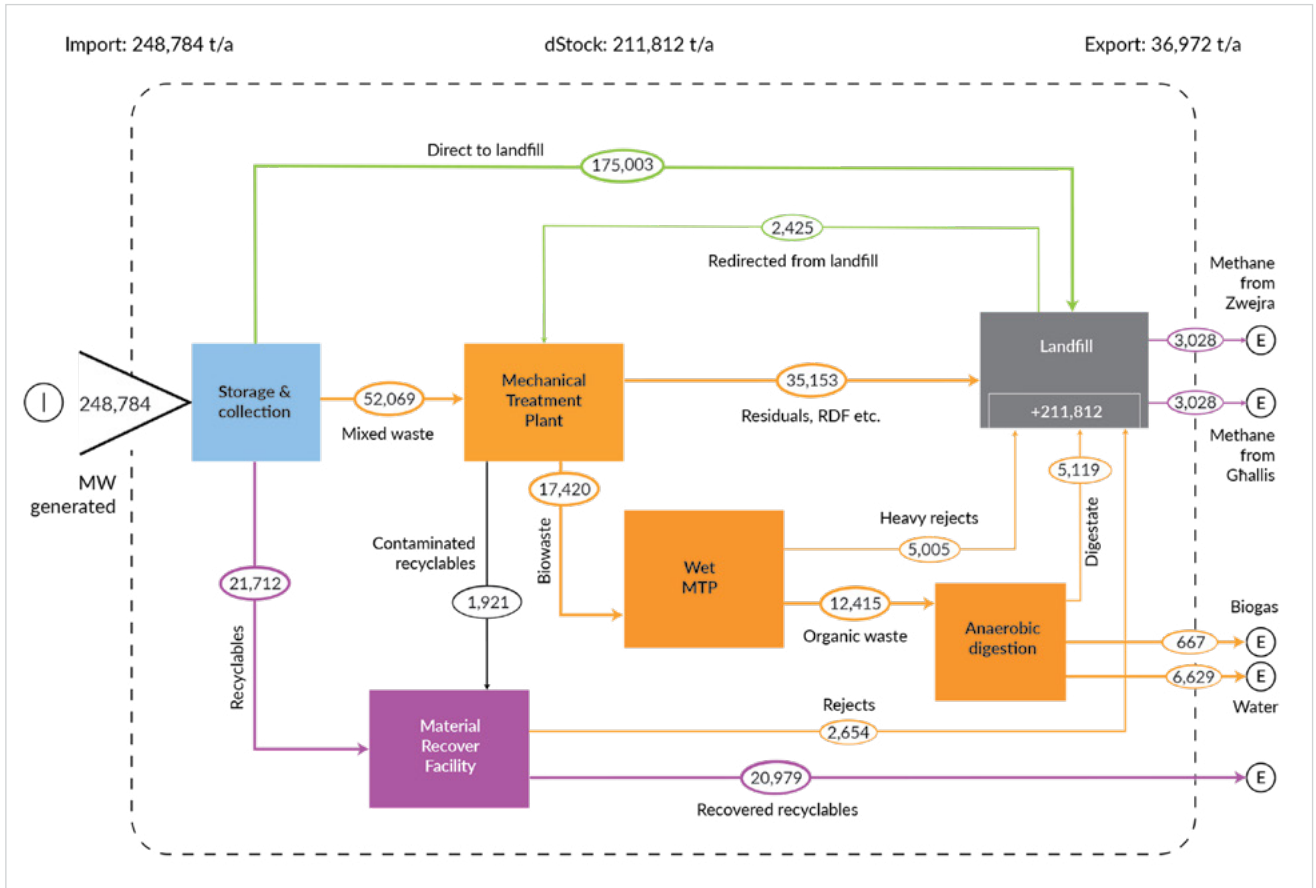
of the waste produced by Maltese households, also known as the municipal waste system, and where that waste goes. In this way, we can determine where we stand and where we are heading with the new facilities introduced as part of the Waste Management Plan for 2014 to 2020.

Following these plans, we have seen the introduction of a Mechanical Biological Treatment Plant, known as Malta North, which started its operations in 2016. The plant, which has a capacity of 76,000 tonnes per year, includes an anaerobic digester and a bulky waste plant able to handle a further 47,000 tonnes per year, while its waste transfer station can handle 11,800 tonnes per year, and a 120,000 tonne waste-to-energy plant may be on its way.

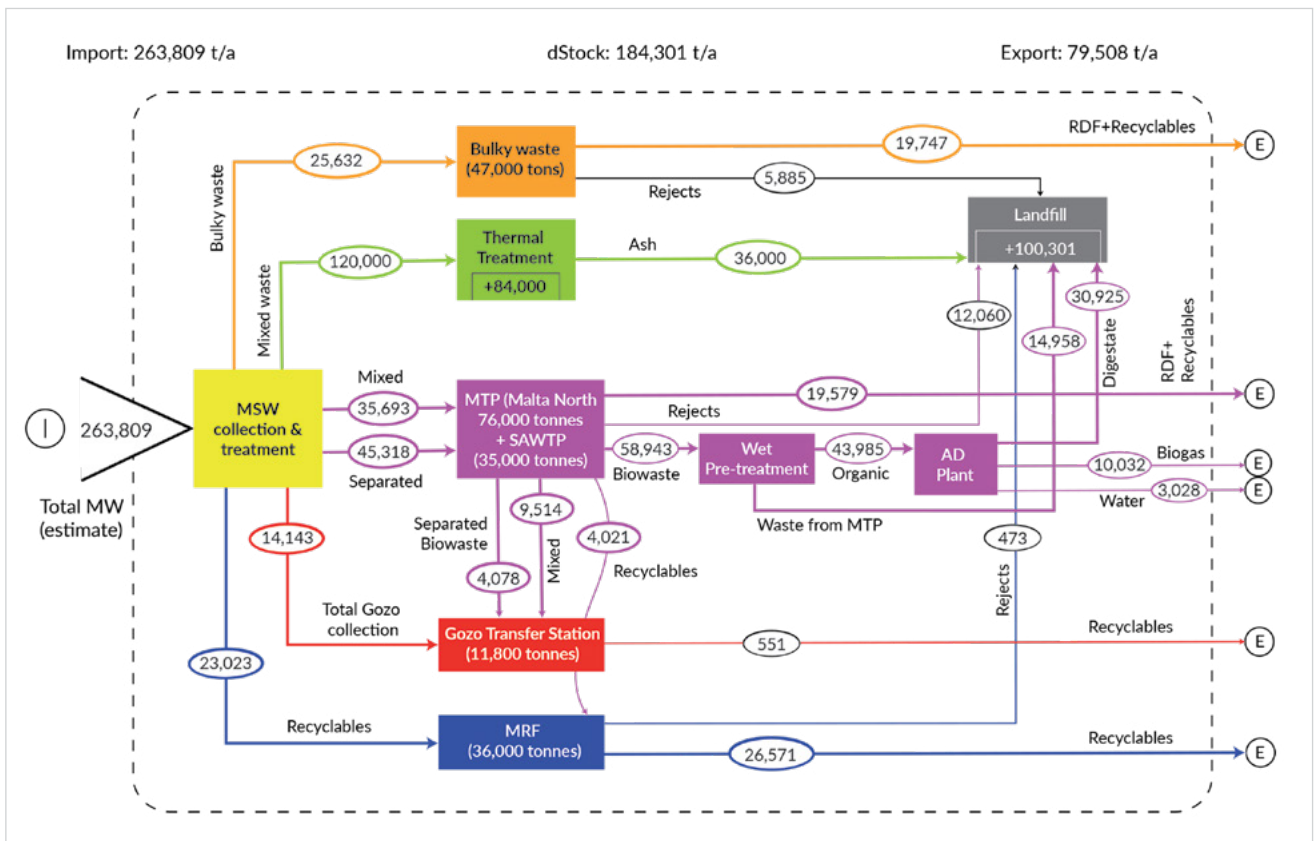
CRUNCHING NUMBERS

In Malta, municipal waste accounts for just 14% of total waste generated. Although it is not the most prevalent type of waste, this waste is the most visible and troublesome for society. So, what happens when the country has 248,784 tonnes of municipal waste to deal with?

The MFA provides a detailed picture of what goes on from collection point to disposal and recycling. Of those 248,784 tonnes, 175,003 tonnes (70.34%) are landfilled. 📍



2012 Material Flow Analysis (simplified)



2018 projected data based on system proposed in the Waste Management Plan 2014-2020 (simplified)



Margaret Camilleri Fenech
Photo by James Moffett

Of the remaining 73,781 tonnes (29.66%), 21,712 tonnes go into recycling facilities, and the remaining 52,069 tonnes are sent to the Mechanical Biological Treatment Plant (MBT), which is able to process either mixed municipal waste or, ideally, source-separated biowaste in a series of mechanical and biological treatment steps. The input received by the MBT is either landfilled (35,155 tonnes); further treated in the anaerobic digester (17,420 tonnes); or sent to the Material Recovery Facility (MRF) which treats recyclable waste like plastic and carton. This means that in reality, 81.14% of waste is landfilled, rather than the 70.03% (175,003 tonnes) previously claimed. A clear loss of material is occurring, particularly since no organic waste separation system is in place.

A SYSTEM REVISED

The new waste treatment facilities drastically change the scenario. In 2018 it is expected that municipal waste will reach 263,809 tonnes, out of which 45.49% will be fed into the incinerator, eliminating the organic component and leaving the remaining ash as stable waste. With the other treatment facilities, the system will become more

circular; more waste will reach the recycling market. For example, the bulky waste facility is estimated to handle 9.7% of all treatment, will be divided between Refuse Derived Fuel (RDF) and recyclables, reducing the amount going back to the landfill to just 5,885 tonnes.

Despite all that, 38% of annual municipal waste will still need to be landfilled. Correct steps are being taken, but Malta's waste problems are far from solved.

The 2018 MFA should serve as an eye-opener to policy makers. The introduction of a 120,000 tonne incinerator facility will not free the country from the need to landfill. We need to improve the at-source separation of biowaste and dry recyclables. If the current trends continue, facilities like the Material Recovery Facility and the bulky waste treatment will be underutilised, leaving more material ending up in the landfill than needed. We need to make sure we recover more material, thus enhancing the lifetime of the landfill and reducing the demand for yet another waste treatment facility that will surely be welcomed by no one.

In the long-term, households and companies need to reduce their waste. Whilst waste-to-

energy has become standard in many countries, Malta needs to tackle its waste streams and their sources separately. Policies need to be set for hotels and restaurants, hospitals, the manufacturing sectors, and others depending on the waste they generate. Setting up focus groups to assess these situations would shed light on existing and quickly implementable possibilities to promote waste reduction and increase recycling. The country needs a holistic effort.

Such activities need to go hand in hand with research. More studies are needed on construction and demolition waste. More is needed to stop needing to dump waste at sea which is ruining our lifeline.

Proper environmental and social accounting are an absolute necessity, because, whilst Malta's GDP shows vast economic growth, this is not synonymous with enhanced quality of life. Focusing wholly on GDP disregards that the economy profits from the natural, social, and human capital. A sad state of affairs indeed. **T**

Note: The project is a collaboration between the University of Malta and Universita' Autonoma de Barcelona.

START UP

SO
YOU
THINK
YOU
CAN'T
DANCE?



*Stalking the President, fundraising, and improving people's lives through dance is all in a day's work for Step up for Parkinson's founder **Natalie Muschamp**, as **Dawn Gillies** finds out.*

Natalie Muschamp has been dancing for as long as she can remember. Throughout her twenties, she was performing all over the world, carving out a successful career. A decade deep, she decided to change gears, shifting into a career in media. However, it wasn't long before she began to dream of returning to dance.

Muschamp decided to formally study dance as a mature student at the University of Malta (UM), and immediately began looking to the future. She knew she wanted to use her dancing skills to help others.

'When you're younger and you're dancing, it's all about you' said Muschamp, 'but I realised that my ego had left the building. We're not on this world to think only about ourselves. We're here to care about other people.' With this new outlook, she started combing through her options. She considered how she might help people with ADHD and autism, but an experience closer to home changed her life and ultimately the lives of Parkinson's patients all over Malta.

Muschamp's aunt lost her partner to Parkinson's disease, a progressive neurodegenerative disorder

with no cure. Patients suffer from tremors, decreased motor abilities, loss of senses such as taste, and 'masking' of the face, where it is difficult to display facial expressions. It is sometimes impossible to make the body do what you want it to.

Muschamp watched her aunt react to the tragedy with incredible courage, walking from Amsterdam to Rome to raise money for the Dutch Parkinson's Foundation. Following this, Muschamp used the time she had left at the UM to research how dance could be therapeutic for Parkinson's disease.

Looking at studies from the last 20 years, Muschamp found clear evidence that dance therapy can improve balance, motor function, and quality of life, imbuing people with confidence. Sadly, she also found that no form of dance therapy was available in Malta. But Muschamp decided it was time to change that fact.

Research in hand, she contacted the Malta Parkinson's Disease Association (MPDA) and asked for their support. They loved the idea so much that they paid for her to attend a training course in the UK and helped to organise her first class. Together with physiotherapist and dancer Amy Dimech, ▶



Natalie Muschamp

they ran the first class. Four patients and four carers attended—a success.

'My sister was filming it, trying not to cry because she was so touched.' Everyone there thought that dancing wasn't for them, but that idea soon changed. With just one class, patients and carers could already see the benefits. Patients had improved breathing and mobility. More classes could only mean even greater results.

But, as with most charitable organisations, one of the biggest hurdles was funding. Classes had to be free, and that was not going to change. To achieve this, Muschamp used every connection she had, and even made a few new ones along the way.

'I knocked on every door for funding.' Persistence was key. With every presentation, Natalie grew more confident. She presented at the Social Impact Awards and approached the Arts Council and Malta Enterprise.

However, she didn't do it alone. She had the invaluable help of mentors Prof. Russell Smith and Ing. Joseph Bartolo (Centre for Entrepreneurship and Business Incubation, UM), as well as a wealth of support from sister Rachelle and best friend Ezgi Harmanci.

REACHING FOR THE STARS

'I want Malta to be the first country in the world to support dance classes for people with Parkinson's and their caregivers in the health system,' says Muschamp.

With such an ambitious goal, they needed politicians to endorse their efforts. But they didn't aim for just any politician. With Harmanci by her side, Muschamp went straight for the top. 'We kind of stalked the president' she divulged. Months of attending black-tie balls and galas made them familiar faces, so when they told the President Marie-Louise Coleiro Preca about their

work, she offered them a meeting. There, they showed her a clip of the first-ever class, and that was more than enough. She promised to help.

She steered them towards the Malta Community Chest Fund Foundation, which she heads. They quickly realised that to access those funds, however, they needed to become a voluntary organisation. Stacks of paperwork and proposals later, Step Up for Parkinson's became official and successfully funded.

They also secured funding from the Malta Memorial District Nursing Association (MMDNA) to attend more training, this time in the US. Not only did it improve their teaching skills, but it prepared them for some dark realities they were yet to face: the passing of class members. When this did eventually happen, Muschamp remembered the important lesson they had learned, 'I'm not going to cure' ➔



| 'I want Malta to be the first country in the world to support dance classes for people with Parkinson's and their caregivers in the health system,' says Muschamp.



For Muschamp, the class members have become family.

them, but I can make their time better.'

This funding has allowed them to address some criticisms of dance therapy. Currently there are only a small number of studies conducted on the topic, and with the MMDNA and UM backing them, Muschamp and Dimech will soon be heading a 12-week study analysing the impact the classes have on carers and participants, both physically and mentally.

SEEING IS BELIEVING

Even with Muschamp's enthusiasm, convincing people to come to the class has been a challenge. Muschamp wanted people to see that you do not have to be a dancer to enjoy and benefit from the sessions. Classes focus on breathing, movement, and creativity. But overcoming shyness and fear is a first step that's big for anyone. It is an even greater challenge for people with Parkinson's, who have the extra worry of losing balance at any given moment.

Muschamp realised the best way to convince people to join was to show them how far others had come with the help of dance, specifically Dance for Health founder Marc Vlemmix.

Diagnosed with Parkinson's at 37, Vlemmix started taking ballet lessons two years later, vastly improving his motor skills and confidence. Last year he flew to





All photos: Participants at the dance classes organised by Natalie Muschamp

Malta to teach classes and inspire more people to join the movement.

Step Up organised a VIP event around his visit to help raise awareness, inviting healthcare professionals, politicians, and the press. They made sure everyone would want to be there, with the opening address given by none other than President Marie-Louise Coleiro Preca herself.

Also speaking at the event was Mildred Atanasio, whose mother attends Muschamp's classes. 'You do not have to be a dancer,' she said. 'A little encouragement, sometimes even a lot, is all there is to it.' Atanasio's mother has done so well that her neurologist has urged her to keep attending the class. In fact, the VIP event was so successful that a good

number of neurologists have embraced the idea and are recommending the classes to their patients.

Two years of tireless work and campaigning have paid off. '[At a recent class] I looked round and realised [everyone in attendance] was standing on one leg!' This might not seem like a large feat to most of us, but it means the world to the people in Muschamp's class. It's a testament to the huge progress they've made.

With funding secured until March 2019, the focus now is on training new teachers and keeping the operation sustainable so that they can offer free classes. To do this, Step Up for Parkinson's is joining organisations worldwide on World Parkinson's Day this year to raise funds, energy,

and awareness. They will also showcase the groundbreaking work they have been doing for patients in Malta, with a performance and a gala dinner at the Corinthia Hotel in Attard. Participants have become so confident, they cannot wait to perform and show off their progress.

For Muschamp, the class members have become family. She has watched them regain confidence, rekindle romance in their relationships, and build a community that they can depend upon for support through their condition. From only eight people at the first class, there are now 60, but with each new member, the challenge starts all over again, and Muschamp is excited to welcome them into the fold. **T**

LAB TO LIFE

**THE PROFESSOR IN YOUR POCKET:
DIRECTED LEARNING ON THE MOVE**



*Every waking moment the majority of us are connected to some sort of technology, so why not use this portable fount of knowledge to continue learning outside the classroom? **Becky Catrin Jones** speaks to **Dr Philip Bonanno** and **Pen Lister** to find out how they are using smartphones and augmented reality to bring lessons to life.*

Picture the scene. A class of history students are on a school trip in the heart of Valletta. The teacher stands in front of the parliament, and begins the lesson by... asking them to pull out their phones and point them towards the building to unlock the next video in the educational trail.

A group of teenagers absorbed in their smartphones? Not the most obvious learning environment, but perhaps not as ridiculous as it sounds.

Using digital technology to expand our knowledge, otherwise known as mobile learning, is by no means a new concept. With the increasing specification and power of our smartphones, we can 'Google' any question and find answers within seconds. Smart learning builds on this concept, allowing users to learn about a particular location or building while standing right beside it. The use of technology in the classroom is not new either and has been growing exponentially in recent years. More and more lessons are based on learning through play with games and explorations on gadgets like tablets and smartphones. When technology is so portable, surely it makes sense to continue this use of digital learning when the lesson is over?

Dr Philip Bonanno (Faculty of Education,

University of Malta [UM]) first caught on to this idea through a European Cooperation in Science and Technology project named *CyberParks*, which sparked public and academic interest in the huge potential of digital media to transform the way people move and learn in urban spaces. Particularly interesting to people was digital media's accessibility now that the vast majority of us walk around with mini computers in our pockets.

'My doctorate is in both psychology and technology, so it was interesting to combine these disciplines working with *CyberParks*,' says Bonanno about the experience. 'We realised that this ease of access to the technology and huge public interest could easily be directed towards other uses. Members of the public could use this to find extra information about their surroundings, look up points of interest, and share the things they found most intriguing about the area.'

Teachers began approaching him following this project, asking for new ways to use technology outside the classroom. Working with Pen Lister, a current doctoral candidate, Dr Bonanno combined these ideas and started developing specific learning activities to be carried out on site using digital technologies, allowing education to flow seamlessly from the classroom, to the outside world, and back again. ➔



Pen Lister



Dr Philip Bonanno

'The ideas behind our smart learning approach are that of enhancing a physical or situational experience by using digital technology. This is made possible through a fusion of networking, collaboration, exploration, and investigation,' explains Bonanno. Smart learning activities can be developed in any discipline using a combination of Augmented Reality (AR) apps and other online resources that link with a smartphone. These are pulled together to provide content which can be triggered by the user through their phone camera, unlocking text, music, videos, images or links to other sources of information to learn more about the object or area in question.

AR enhances the user's experience at a particular location with its ability to bring an area to life, for example, seeing beneath the surface of a painting, or looking back in time at a complete version of a now decayed building. Interaction is also a key feature. Users can add their own feedback to the material, describing their experience at the location. How did it make them feel? Did they see things differently? What did they hear or smell in that environment which made the experience more intense? This use of AR does more than just simulate the experience, it immerses the learner in a hybrid environment, encouraging exploration, experimentation, and conversation.

This is known as a learning journey—a collection of content triggered by external cues that can provide a more

in-depth learning experience than exploring alone. A prototype learning journey depicting the Great Siege on Senglea point in 1565 was one of the first created at the UM. Standing in Upper Barrakka Gardens, the learner can direct their smartphone camera towards Senglea Point to see images of the attack by the Turks, and compare them with how the site appears today. High-resolution images of models of the attack were collated, resulting in a 3D image which is projected onto the Point through the camera. Combined with stories, films and other resources, the user can travel through 500 years of history and see what the siege might have looked like at as it was happening. All you have to do, of course, is ignore the present-day hustle and bustle of boats, cars, and tourists!

One potential challenge of this approach is connectivity, or rather the lack of it. However, with the increasing accessibility of Wi-Fi, 4G data, and other browsing data points, this hurdle will soon be overcome. Another consideration besides augmentations activated by trigger images is using other less versatile modes of connection such as GPS or beacons, small gadgets which can be physically placed in a location and send out Bluetooth signals.

The beauty of this type of learning is that it can be applied to almost any target audience and subject. A historical walking tour for tourists to Valletta, for example, or an insight into democracy and politics, with a learning journey down Republic Street. 'A current

When technology is so portable, surely it makes sense to continue this use of digital learning when the lesson is over?

collaboration between our team and the curator of Argotti Gardens is exploring how this technology can be used to enhance the learning experience of botany students in the gardens,' says Bonanno. Smart learning designers, botany experts, and the students themselves are working together to create the learning journey, which will involve a mix of prescribed original content together with increasing user-generated content. This is then linked to an online sharing facility, where students can refer to information from their peers and gain a greater understanding of changes throughout the year.

Of course, these learning journeys do not appear overnight and are certainly not the work of a single

entity. Significant resources need to be invested by educators to understand how to write and create the content. Evaluation is continuous throughout the process to ensure that these experiences are user-friendly, and Pen Lister is currently conducting interviews with users of the developed learning journeys as part of a wider evaluation process.

Perhaps most important, however, is the collaboration between teams of developers and other university departments, to really harness the huge potential of smart learning. Particularly, the team is interested in allowing students themselves to develop their own stories based on their strengths and skills. A guided outdoor workout in

Ta' Qali coordinated by a sports student maybe? Or perhaps an animation about recycling and waste disposal by an environmental sciences student?

'By handing the reins to the students, we empower them to create their own learning journeys, improving their understanding of their subject whilst also making it accessible for others with no background in the field,' says Bonanno.

So don't ban smartphones in the corridors or write off fusion between art-history and digital technology just yet. We're in the midst of a digital revolution, and we invite you to join us in creating the next seamless learning environment to inspire curiosity in a whole new audience. **T**

ARE YOU A BUDDING ENTREPRENEUR BUZZING WITH IDEAS? PERHAPS YOU'RE AN ACADEMIC LOOKING TO BRING YOUR RESEARCH CLOSER TO MARKET? IF SO, THIS IS THE FUNDING CALL FOR YOU!

For the fifth year running, the Ministry for the Economy, Investment and Small Businesses together with the University of Malta will be awarding a total of €100,000 to entrepreneurs and researchers to help get their ideas off the ground.

The call for applications will open on Tuesday 24th April 2018, with a deadline of noon on Friday 18th May. Potential applicants must attend the Seed Fund or Proof of Concept workshops running in May.

For further information visit <http://takeoff.org.mt/seed-funds/takeoff-seed-fund-award-2018>



Merging Past and Future

*It was just over a year ago that two University of Malta (UM) departments and an institute started working on LARSOCS, a collaboration which would see off-the-shelf drones revolutionise the way archaeological sites are being documented. In **THINK**, Dr Ing. John Charles Betts speaks to **Iggy Fenech** and explains what the project has achieved and where it is headed.*

Although archaeology is a field whose aim is to uncover our past (often quite literally), it is also one that looks firmly to the future to equip its practitioners with the instruments they need to do their job. Medical technologies and methods are used, as are those from engineering and criminology. True to this idea, the Department of Classics & Archaeology (DoCA, Faculty of Arts, UM) has spearheaded a project that will add an impressive new tool to practitioners' arsenals.

The LARSOCS project (Low Altitude Remote Sensing Over Compact Sites) seeks to arm the DoCA with a series of programmable Unmanned Aerial Vehicles (UAVs, better known as drones), that could help document excavation sites, while also providing data that can

be translated into site maps and three-dimensional (3D) models.

Funded by the Research, Innovation and Development Trust (RIDT), LARSOCS is truly the sum of its parts, and has brought together an eclectic interdisciplinary team of researchers. Dr Ing. Marc Anthony Azzopardi and Dr Ing. Brian Żammit (Department of Electronic Systems Engineering, Faculty of Engineering, UM) worked on the hardware design of an innovative control system with engineering graduate Karl Galea. Dr Charles Galdies (Institute of Earth Sciences, UM) took on image processing, correcting the collected images to allow measurements to be taken from them, while Dr Gianmarco Alberti from Italy worked on image processing and analysis for 3D modelling. Finally, Dr Maxine Anastasi (DoCA) worked with Dr Ing. John Charles Betts, project

coordinator and lecturer (DoCA), on the work's applications. Flights were piloted by Żammit and Betts.

The team was later joined by Masters student Mannaig L'Haridon (French National School of Geomatics,



Dr Ing. John C. Betts



Cart ruts at Clapham Junction near Siġġiewi

Paris). She turned out to be a windfall for the project, taking part in planning and carrying out the drone flights herself. She produced rectified images and photomosaics, large-scale detailed images built up by combining photographs of small areas. She also introduced the team to the open-source MicMac 3D software for image correction and three-dimensional model generation, a programme that was not only useful but also reduced costs considerably.

'By remote sensing, the drones—named Harpy, Hera, and Hercules—capture data from a distance, and present it in various forms: from realistic images, to false colour showing variations in height, or point clouds used as the basis of virtual 3D models,' explains Betts. The crux of the innovation lies in the design of a Local Positioning System (LPS) that would allow these off-the-shelf, low-cost drones to be flown at much lower heights than normal, both above ground and in confined spaces.


At the end of the first phase the LARSOCS team had managed to operate their drones manually and with pre-programmed flight instructions. The LPS design is now complete, which means that in the second phase of the project the team will construct drones that are capable of fully-automated flight at very low altitudes.

'The funding has given the department some incredible new tools, which have allowed us to create 3D models, and digital elevation models of a quarry site in the Clapham Junction area near Siġġiewi, and a 330MB-photomosaic of the Żejtun Punic/Roman fieldwork site,' Betts continues.

'This changes everything. Until now, we have mostly relied on drawings, written text, and traditional photography when documenting excavations that are reburied after discovery. Now, through the use of these drones and specific software, we can have a very comprehensive graphic record of what has been unearthed. This can be used in

tandem with the written data record and drawings for further research, or even to create 3D virtual models to be displayed within museums.'

LARSOCS, although officially closed as a project, is still very much alive, and plans are being made to launch Phase Two, which will continue building on what has been achieved so far. Betts and the team are already on the hunt for future applications of the technology, including virtual reality tours, as well as design and manufacture of 3D-printed solid models intended for visually impaired people.

'Although this was a small-scale project, it's a force multiplier and a game changer,' says Betts. 'And not just for those involved in Archaeology and its related disciplines. Collaboration is definitely on the cards. In the future it could be used by others within the UM, across areas as diverse as geoscience and agriculture, IT, and engineering and environmental studies that reap the benefits of this work by applying it to new concepts.' 



How will science judge Valletta 2018's legacy?

Valletta 2018 Foundation

Art and culture are often deemed to be the realm of the intangible, subject to their audience's subjectivity. Now, however, a team of researchers have stepped up to challenge this notion.

After a grand opening in January Valletta's year as the European Capital of Culture (ECoC) is now fully underway.

The city is livelier than ever before, with up to a million visitors expected by the end of the year. Cultural and artistic events are packed into every inch of the calendar and the city. But what will the long-term impact of this exceptional year be? Will the changes Valletta has undergone as a result of this title continue to be felt far down the line by its residents, visitors, and investors? How can all of this work be tested objectively?

The Valletta 2018 Foundation is exploring the legacy of the ECoC through an ongoing process of evaluation and monitoring that started back in 2015. A scientific committee with Dr Antoine Żammit as a key

figure has designed a methodology to assess, and ultimately enhance, the impact that the Valletta 2018 Foundation's four major infrastructural projects are having on the city's community. Under the spotlight are: MUŻA (*Mużew Nazzjonali tal-Arti*), the Valletta Design Cluster at the Old Civil Abattoir (*Il-Biċċerija*), Strait Street, and the Market Building (*Is-Suq tal-Belt*).

'The four projects we selected were purposefully chosen to have a mix of public and private-led developments, geographically distributed all over the city,' Żammit says. 'The committee used a deductive approach, which aims to test an existing idea, and an analytical framework developed from contemporary urban design theory. For our baseline study, we assessed the areas' current physical condition and the characteristics of the space. At the same time we drew

inspiration from Jan Gehl and Birgitte Svarre's work *How to Study Public Life*, to assess the four neighbourhoods' social components. We observed hundreds of patterns which we then collated into distinct categories.'

How do people use the space? Do they spend time there? Do they just pass through? Do they stop to talk? Do people bump into each other? How often? These questions all help explain how the neighbourhoods are inhabited and experienced. Repetition of the study over consecutive years will show a clear picture of development and change. In fact, this process will be repeated again in 2018.

The next step in the study involved focusing on key stakeholders in those projects. The team conducted interviews with the people involved and then analysed the text, allowing them to understand the frequency of



Culture Matters Seminar as part of 9th Pecha Kucha Night at the Societa La Valette Band Club. Photos by Geoffrey Zarb Adami.



Culture Matters Seminar.



Culture Matters Seminar.



Culture Matters Seminar.

terms used and their context. Terms were placed into categories, revealing each stakeholder's agenda. And make no mistake, each stakeholder had a very different agenda.

'For instance, Caldon Mercieca, head of the *Biččerija Design Cluster* project, was very interested in involving residents in the project, and favoured a bottom-up approach. This was reflected by the vocabulary he used in the interview. On the other hand, the interview with Antoine Portelli on behalf of Arkadia for *is-Suq tal-Belt* was all about the visitor's experience of food, drink, and retail. This was a private, developer-led approach with no mention of the community. In fact, there are major concerns about that particular project: that it may be unaffordable for many of

Valletta's own residents and will end up killing off smaller local businesses.'

Beyond the initial four projects, the research also looked at development planning applications being submitted for property in and around Valletta. At this stage, a fascinating trend emerged. Since Valletta won the ECoC title application numbers have increased, as have applications for change-of-use away from residential. While Žammit notes that this all could be attributed to a number of different reasons, including a change in government and the winning party's very neo-liberal approach, the reality remains that 'Valletta is going from residential to non-residential. Though, it's not about retail, which appears to be moving out of the city. It's about catering. Valletta is becoming a catering destination.'

Such news is alarming for anyone who cares about Valletta as a liveable city. Many of its longer-standing residents are feeling neglected as lavish accolades are heaped upon the city and it receives a shiny new makeover. To understand this shift, Valletta residents were brought in for the final stage of Dr Žammit's research: a public participation geographic information systems study (PPGIS).

'A PPGIS allows people to map their concerns, aspirations, needs, and ideas about a city. They can do it physically or digitally, by mapping out specific categories or points of conflict related to livability issues.' It turned out that key observations from this workshop had strong parallels with points raised at the annual conference by Valletta 2018 and Design 4D City (an initiative

All this work, Żammit hopes, will feed into future policies, creating a very real legacy for the ECoC endeavor.



Dr Marie Briguglio



Dr Antoine Żammit

by Valletta Design Cluster). At both events, attendees flagged problems with pedestrian-vehicle conflicts, parking, accessibility for all, resident-developer conflicts, nuisance caused by construction, public-private space conflicts, vandalism, and maintenance.

These voices are being documented by other members of the scientific committee as well. Social anthropologist Michael Deguara collected interviews from different communities around Valletta, as part of a qualitative research initiative. He found that residents who participated in cultural activities within the city had an improved quality of life and were happier. On the other hand, those who did not participate felt excluded, which in turn made events going on around them detrimental to their happiness. Further research by sociologist Dr Marie Briguglio sought to quantify 'happiness' by looking at the impact of cultural participation on quality of life, giving a personal snapshot of the community through people's stories and experiences, and providing a clearer picture of Valletta's community.

Looking at the main takeaways, Dr Briguglio found that Valletta 2018 was perceived to be a good thing overall. Participants felt that the Maltese will be proud of the event and thus of being Maltese and forming part of the EU. On the other hand, there was some scepticism as to what will happen beyond 2018 and what the legacy of Valletta 2018 will actually be. Residents were hopeful that some positive effects of being the ECoC, such as the continual restoration of Valletta buildings, would prevail, and

that structures would be installed to enable the cultural community to expand beyond what it is today.

With so many important findings from this research, it was essential to the team that the information be made immediately accessible and legible to all those who have a say in the matter. As a result, everything is available through the Foundation's portals, from word clouds, to graphs and charts.

'Policy-makers are the ones driving the government's agenda, so you need to be able to speak their language: hence the use of numbers and graphics,' Żammit says. 'They tend to take the defeatist approach where they believe that a natural consequence of the evolution of a city is gentrification, renovating districts to middle-class taste. But this may be preempted, and indeed avoided, if different strategies are in place.'

All this work, Żammit hopes, will feed into future policies, creating a very real legacy for the ECoC endeavor. 'The current Valletta strategy has a lot of shortcomings—it's a short-sighted view of the future of the city that's more about generating investment, while acting against Valletta's long-term liveability.' The solution? Put everyone, of all agendas, in a room and have them hash it out. 'As urban designers and researchers, we need to seek ways of enabling and facilitating these discussions,' says Żammit. 

For more information, visit the Resources page on the Valletta 2018 Foundation's website or email research@valletta2018.org



CYBER-SAFETY IN AN EVER-SHIFTING LANDSCAPE

*The threat of infection looms large in the digital world, but a team of University of Malta (UM) alumni have taken it upon themselves to create a cybersecurity system that acts quickly and responds dynamically. **Teodor Reljic** learns about CyberSift.*



When it comes to cybersecurity, the adage 'survival of the fittest'

gains an even sharper—almost crystalline—technological edge. The nature of the beast makes it so. The cybernetic universe is infinitely adaptable, expanding or contracting its borders based on the latest innovations. With this broad canvas of potential open to all, 'innovations' could either mean something positive and wholly beneficial, or it can signal new and destructive ways for cyberattacks to worm their way through a system. Any system.

This is where cybersecurity comes in. How can businesses feel entirely safe on the web, given all of the digital landscape's attendant vulnerabilities and the obvious dangers of tech-savvy attackers who would always be

The cybernetic universe is infinitely adaptable, expanding or contracting its borders based on the latest innovations.

tweaking their methods to beat the 'good guys' at their game?

Well, while they do not claim to have all of the solutions, a new cybersecurity venture appears to be able and willing to give it their all when it comes to addressing some of the industry's key lacunae.

AI FOR SECURITY

CyberSift was founded by Brian Zarb Adami and David Vassallo in an attempt to address some rather large elephants in the realm of cybersecurity. The idea to take their own shot at shaping this scene first came about while the duo were still employees within the ranks of another company, tackling a particularly tough project. The project was successfully brought forward, but Vassallo was left frustrated with the cybersecurity mechanics available at the time.

Throughout the course of the assignment, it became painfully clear that large security systems raised the biggest red flags. Not only were they unable to detect new threats released daily, but they also lacked integration of modern data mining techniques.


'This was alarming, given how organisations worldwide are always shoring up vast amounts of data—hence the term 'Big Data'. In reality, they rarely use that data to its full potential,' Sirly Raavel, CyberSift's Marketing and Communications Executive explains, as she guides us through the company's journey. An enhanced security mechanism is one

of the ways in which such data could be employed to more beneficial ends.

This starting point would grow to form the backbone of the entire CyberSift initiative, which, Raavel hastens to add, not only includes its founders, but also a dedicated team of IT developers, IT infrastructure engineers, 'and, of course, marketing.'

'We wanted to create a system that was quick and easy to deploy and incorporated modern AI and machine learning techniques to glean valuable insights from all the data that's being gathered. These insights help the customer's security analysts be more effective and basically helps in automating away the boring aspects of these analysts' jobs. This approach allows a customer to increase their level of security with a smaller upfront cost,' Raavel adds, before delving into the logic behind how CyberSift evolved from a concept to what it is today.

'The AI and machine learning algorithms were a product of David's studies and research while pursuing his Masters in Computer Security (University of Liverpool), and they continue to be improved and used in CyberSift to this day. Brian handled the business side—raising investment, identifying customers both locally and abroad, all while managing operations and marketing.'

Going back even further, Vassallo is very quick to emphasise the importance of the University of Malta (UM) to their overall project. Having met as students in that institution (though at that )



Brian Zarb Adami



David Vassallo

time, enjoying widely divergent academic paths) both Vassallo and Zarb Adami pride themselves in being able to creatively apply their early academic experience in ways that have now yielded substantial tangible benefits.

'The most important impact that the UM has had is that it taught us how to research, how to think, and how to solve problems that are not necessarily part of the course curriculum or career that you are pursuing,' Vassallo says. This is directly reflected in the duo's eclectic research backgrounds. Case in point: CyberSift is an IT company; however Vassallo graduated from the UM as an electrical engineer, and even more dramatically, Zarb Adami graduated as a pharmacist. While both disciplines appear to be entirely at odds with the nature of the CyberSift project, Vassallo firmly believes that their university experience contributed to making them great all-rounders, capable of internalising

the knowledge required for any task, and creatively dealing with issues.

SOME CYBER-GAPS

All of this paints a picture of a company put together by a couple of dynamic and well-informed professionals itching to address what they deem to be some of the industry's most glaring imperfections. CyberSift's efforts become all the more important to consider when you remember that 'imperfections' tend to equal 'gaps' in the fields of cybersecurity. Gaps through which crippling attacks can worm their way.

In cybersecurity, gaps are normally linked to complacency. As Raavel succinctly puts it, 'businesses tend to think of cybersecurity the same way they do about insurance. They don't think they really need it until they get hit by a security incident, by which time it's usually already way too late.' Despite this issue, CyberSift

still needed to elbow its way through the market during its early stages.

'The first steps were to understand the demand [from companies]. We had to answer questions like: how much would a customer be willing to pay for such a system? What would be the major pain points they were likely to encounter when using the product? Once we had a handle on these questions, the next challenge was to build a working proof of concept that we could deploy to a friendly customer to make sure our idea worked. Users should be able to interact with the system without needing an advanced degree in mathematics,' Vassallo says.

One of CyberSift's key innovations is its speed of implementation. The sluggishness of previous systems was always a bugbear of Vassallo's, so unsurprisingly then, this was one of the first things to be addressed by the team when bringing this new system to life.



CyberSift in particular is a behaviour-based system, though Raavel is quick to add that even this niche includes a diversified range of products.

'To this end, the tech team's main concern was to make sure that CyberSift would be able to 'slot in' to an existing customer network without any large disruptions, or causing a bottleneck,' Zarb Adami recalls, filling us in on some of the nitty-gritty details of how CyberSift works in practice.

'Almost any client already has some sort of security infrastructure in place, be it an antivirus, firewalls, and so on,' Zarb Adami says.

All these products generally generate logs. What CyberSift does is simply 'ingest' these logs in a variety of ways, 'offering flexibility to the customer,' and then applies its AI and machine-learning algorithms to digest and absorb them, highlighting those logs and sequences which are anomalous.

'So in reality, once a client buys CyberSift—which is either a server on-premises, or a server in the cloud—they simply tell their existing security tools to send their logs to CyberSift,' Zarb Adami adds.

Raavel then goes on to outline just how CyberSift differs from other security mechanisms out there.

In general terms, Raavel explains, there are two types of security products, each of which has their niche in the security ecosystem.

'There are 'signature-based' products—for example your antivirus—

which downloads a set of rules and flags a file or event as suspicious if it matches any of those rules. Then there are 'behaviour-based' systems which take the time to sit back and build a baseline of your network to get a better idea of what normally happens on there,' Raavel says. After a certain amount of 'training,' these systems can highlight any behaviour which deviates from this baseline. This approach is advantageous, since these behaviour-based systems are actually capable of detecting previous unseen malware as they do not require any rules—a big plus in today's security landscape.

CyberSift in particular is a behaviour-based system, though Raavel is quick to add that even this niche includes a diversified range of products. 'These differences are mostly due to the type of AI we use in our systems. AI is a vast and interesting field, with sub-categories such as neural networks, genetic algorithms, and pure statistical-based methods,' Raavel says, adding that, 'Naturally, each approach has its own pros and cons.'


'For example, some algorithms may be very quick to train, but have a lower accuracy—while other algorithms may take a very long time to train, but offer much greater accuracy. Other algorithms may be fantastically accurate but require so many resources

that they are impractical,' Raavel says. She continues, 'Like any good barista would tell you—the trick is choosing the right blend.' In CyberSift's case, 'We need the right blend of algorithms to make CyberSift accurate while remaining responsive and not breaking the bank in terms of resources required.'

THE PERPETUAL FIGHT

Asked to single out some of the most urgent cyber-security issues right now, Vassallo says that the biggest problem is 'helping defenders keep up with the attackers'. For this reason, CyberSift favours a behaviour-based approach, because it can 'highlight those events which look suspicious even if they are brand new, or 'zero-day' in industry terms.'

Favouring a rapidly responsive and dynamic system appears to be a 'common-sense approach to battling the constant threat of 'infection' in the digital world,' Vassallo explains.

'The challenge of the cybersecurity industry is that you can never just 'fire-up-and-forget' a product [...] it's not a good job for people who don't like learning new things, or being outside their comfort zone on a regular basis. But if you have the right people, then it actually becomes a thoroughly rewarding experience.' 

TO-DO LIST

MUSIC



Yesterday's Gone is the incredible confessional debut from Loyle Carner. The British rapper mixes soul, old-school hip-hop, and jazz to astounding effect. Check it out.

BOOK



Big Magic by Elizabeth Gilbert, author of *Eat, Pray, Love*. If you're a creative soul and struggle with finding balance, you need to read this book.

MOVIE



In film school you hear a lot about 'externalising the internal' and showing a character's true self through visuals. Well, **Inside Out** certainly does that. Join Riley and her incarnate emotions as she tries to adjust to a new life in a new city.

YOUTUBE CHANNEL



Want to get smarter quicker? **Big Think** features experts on every subject, exploring all those big ideas and challenges you're facing.



TV



In **Peaky Blinders**, Cillian Murphy plays Tommy, head of the deadly Shelby clan. If you're a fan of 'grey', complex characters, this has you covered.

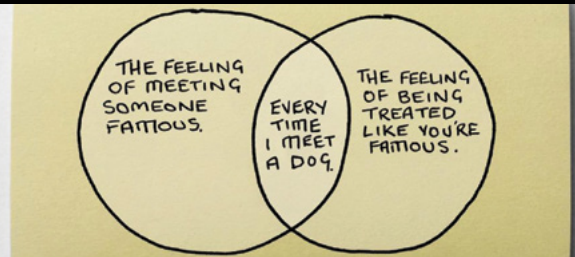
PODCAST



Join Deborah-Frances-White and guest hosts for **The Guilty Feminist**, where they chat about 'their noble goals as 21st C feminists and the hypocrisies and insecurities which undermine them.'



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