

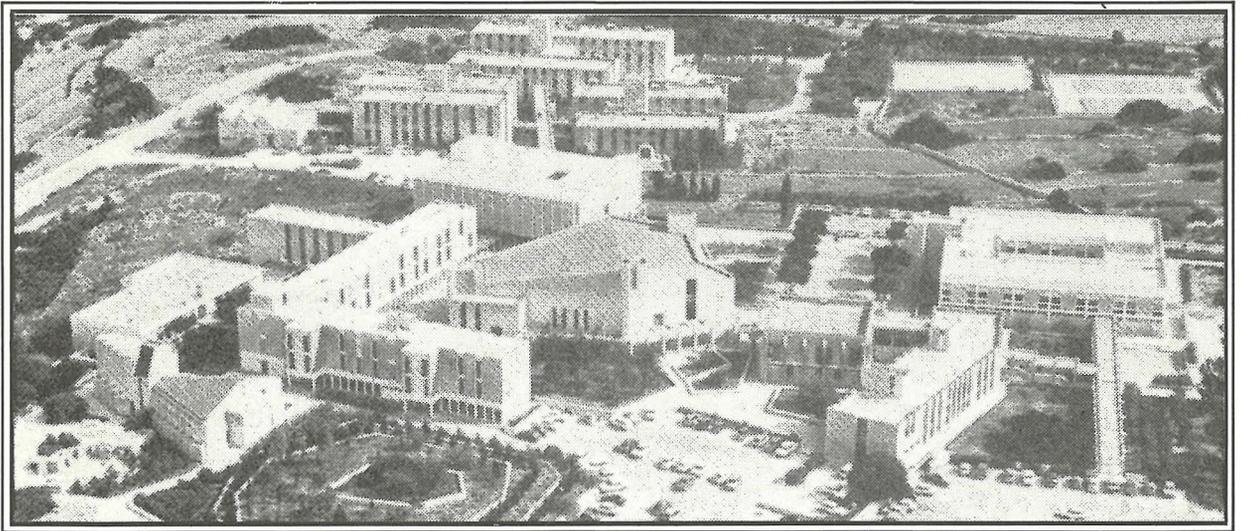


University of Malta

Gazette

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The dignitaries at the Graduation Ceremony (from left to right): His Grace the Archbishop Mgr. Joseph Mercieca, The Rector, Professor Edwin J. Borg Costanzi, The Chancellor, Judge Maurice Caruana Curran, and the Hon. Minister of Education, Dr. Ugo Mifsud Bonnici.

Professor Joseph M. Ganado, Dean of the Faculty of Law, sponsored the LL.D. graduate.

GRADUATION CEREMONY

On Thursday, 13th July, 1989, the Rector, Professor Edwin J. Borg Costanzi conferred two hundred and fifty-six degrees at a Graduation Ceremony held at the University Assembly Hall, Msida.

The ceremony was presided by the Chancellor of the University, Judge Maurice Caruana Curran. Among the distinguished persons present were the Hon. Minister of Education Dr. Ugo Mifsud Bonnici and His Grace the Archbishop Mgr. Joseph Mercieca.

Professor Robert Ghirlando of the Department of Mechanical Engineering delivered an oration on "Engineering and University – Industry Links", while Miss Doreen Spiteri, representative of the graduands, made a brief address.

The following degrees were conferred:

Bachelor of Arts (Honours) Accountancy

Jacqueline BRIFFA
Nadia CACHIA
John CAMILLERI

Ronald CAMILLERI
Stephen P. CARUANA
Jesmond CUTAJAR

Christine DEMARCO
Simon DEMARCO
Moiria FALZON

Albert FRENDO
Valerie GALDES
Edward GRECH

Simon GRIMA*
Mark R. HILI
Michael MACELLI

Jacqueline MAGRI
Martin MALLIA
Josette MIFSUD

Bernardette MUGLIETTE
Mariella PACE
Joseph PULLICINO

Carmel SCERRI
Robert SCERRI
Maria Rosaria VELLA

Bachelor of Arts (Honours) Business Management

Carmelo ABELA
Simon ALDEN
Michelle ATTARD

Mark J. BAMBER
Tanya BONNICI
Kevin BUHAGIAR

Carmelo CAMILLERI
Catherine CAMILLERI
Anthony CARABOTT

Robert DEMARCO
Paul FARRUGIA
Paul FARRUGIA

Marika FSADNI
Adrian GALEA
Catherine GALEA*

Sergio GALEA
Peter Paul GRECH
Louis OLIVIERI

Anthony SCICLUNA
Andrew SPITERI
Maria Carmela VASSALLO

Mary Grace VELLA
Victor VELLA
Franz WIRTH
Paul ZAHRA

Bachelor of Arts (Honours) Public Administration

Francesco APAP BOLOGNA
 Jacqueline ATTARD
 Anthony AZZOPARDI

 Carmel AZZOPARDI
 Alfred BORG
 George CAMILLERI

 Renaldo CINI
 Raymond COSSAI
 Claude CUSCHIERI

 Aldo CUTAJAR
 Anthony L. ELLUL
 Walter W. FARRUGIA

 George FRANCALANZA
 Pierre GATT
 Marie Therese GRECH

 Michael MICALLEF

Leonard MIZZI
 Jane MIZZI
 John MUSCAT DRAGO

 Susan PACE
 John PORTELLI
 Jesmond PULE

 George SALIBA
 Richard SCERRI
 Gerald SCICLUNA

 Herman SCHIAVONE
 Martin SPITERI
 David SPITERI GINGELL

 Salvinu TABONE
 Noel TOLEDO
 Leonard ZAMMIT MUNRO*

 Simon SAMMUT

Bachelor of Engineering and Architecture (Honours)

Carmen ABELA
 Ivan ATTARD
 Paul BORG

 George BUHAGIAR
 Patrick CALLEJA
 Elizabeth CAMILLERI

 John COLEIRO
 Alexander CUTAJAR
 Stephen V. FARRUGIA

 David P. FELICE
 Joe FORMOSA
 Adrian MAMO

Etienne MICALLEF GRIMAUD
 Jesmond MUGLIETT
 Joesph A. PACE

 Raymond SAMMUT
 Robert SANT
 George SCHEMBRI

 John SCHEMBRI*
 John L. VALENTINO
 Simone VELLA

 Gaetano ZAMMIT
 Ian ZAMMIT
 Pierre ZAMMIT*

 Kenneth ZAMMIT ENDRICH

Bachelor of Electrical Engineering (Honours)

Martin AQUILINA
Frank BALDACCHINO
Anton BARTOLO

Mario CACHIA
Ronald CALLEJA*
Franco CARUANA

George CARUANA
Rose Anne CIANTAR
Joseph CILIA

Saviour CINI
Emmanuel DARMANIN
Desmond DEBATTISTA

Saviour DEBRINCAT
Simon FABRI

Alexander MIFSUD
Michael D. MIFSUD
Michael H. MIFSUD

Emanuel PARNIS
Christopher PORTELLI HALE
Mark POWELL

Alexander RIZZO
David SACCO
Christian SAMMUT

Christian SCERRI
Patrick SCICLUNA
Simon TONNA

Carmel XERRI
Anthony ZARB

Bachelor of Mechanical Engineering (Honours)

Fabiola ANASTASI
Aurelio ATTARD
Jesmond AZZOPARDI

Joseph BAJADA
Nicholas BELLIZZI
Jonathan BORG

Pierre BUGEJA
Charles BUTTIGIEG
Anthony CAMILLERI

Simon CAMILLERI
Francis X. CASSAR
Joseph CASSAR

Pierre DALMAS

Lawrence DIMECH
Michael FALZON
Emanuel GALEA

Stephen GALEA ST JOHN
Matthew GATT
Tonio MUSCAT*

Claire MUSCAT FENECH
Ronald PACE
Paul REFALO

Malcolm SCERRI
Norman ZAMMIT
Francis CORTIS

Mario VASSALLO

Bachelor of Education (Honours)

Maria ABELA
Mariella ABELA
Antoinette AGIUS

Miriam AQUILINA
Mary Grace ASCIAK
John BALDACCHINO

Monica BALDACCHINO
Maria Rita BEZZINA
Mary Rose BONDIN

Elizabeth BONELLO
Marlene BONNICI
Carmen BORG

Joanne BRINCAT
Joseph BUHAGIAR
John BUSUTTIL

Peter BUSUTTIL*
Stephen CACHIA
Josette CALLEJA

Stephen CALLEJA
Maria CALLUS
Jennifer CAMILLERI

Joanna CAMILLERI
Stephen CAMILLERI
Mary Rose CARUANA

Bachelor of Education (Honours) Contd.

Josette CASSAR
Deborah CHETCUTI
Josephine CINI

Desiree COLEIRO
Glorianne CREMONA
Josephine CUTAJAR

Patricia CUTAJAR
Josette DALMAS
Tanya D'AMATO

Josette D'AMICO
Michael DARMANIN
Mario DIMECH

Kevin DRAKE*
Caroline EBEJER
Anthony FABRI

Paul FALZON
John FARRUGIA
Josette FARRUGIA

Marisa FARRUGIA
Miriam FARRUGIA
Stephanie FARRUGIA

Kevin GALEA
Nicholas GALEA
Christine GATT

Edwina GATT
Carmel GAUCI
Christine M. GAUCI

Christine P. GAUCI
Joseph HILI
Stephen MICELI

John MIFSUD
Ruth MIFSUD
Rita MONTEBELLO

Gaetana MUSCAT
Mary PORTELLI
Angela SAMMUT

Paul SAMMUT
Saviour SAMMUT
Miriam SANT

George SCHIAVONE*
Caroline SCIRIHA
Alexander SPITERI

Doreen SPITERI
Lydia SPITERI
George TABONE

Christine THEUMA
Therese TORTELL
Glorianne VASSALLO

Marie T. VASSALLO
Suzanne VASSALLO AGIUS
Ronald VELLA

Adriana VELLA
Joseph XUEREB
Patricia ZAHRA

Josette ZAMMIT MANGION
Isabelle ZARB
Pierre GATT

Paul PORTELLI
Patrick A. UMANAH

Bachelor of Arts

Mary Anne AZZOPARDI
Stephen BONANNO
Joseph BUHAGIAR*

Martin P. CARDONA
Hilary CARUANA
David GAUCI

Joseph GIORDMAINA
Anna Maria MANGION
Eric OVEREND*

Anita RAGONESI
Enoch TONNA*
Rosette VELLA

Doctor of Medicine and Surgery

Franklin POLIDANO

Doctor of Laws

Etienne CARUANA



A group of engineering students preparing for the robing ceremony. Their uneasiness and perplexity seem to prevail on order and dignity.



A group of graduates immediately after the Ceremony, proudly holding their well-earned scrolls.

UNIVERSITY COURSES

Entry of Students – October 1989

In August 1989, the University had issued calls for applications, offering courses leading to the degrees of:

BACHELOR OF ARTS*
 BACHELOR OF EDUCATION*
 BACHELOR OF COMMERCE*
 BACHELOR OF ENGINEERING (Honours)
 DOCTOR OF LAWS
 DIPLOMA OF NOTARY PUBLIC
 BACHELOR OF ARTS IN SOCIO-LEGAL STUDIES
 DIPLOMA OF LEGAL PROCURATOR
 BACHELOR OF SCIENCE
 BACHELOR OF SCIENCE (Nursing Studies)
 BACHELOR OF SACRED THEOLOGY

to the Diploma in APPLIED SOCIAL STUDIES;

to the FOUNDATION STUDIES CERTIFICATE.

(*with the possibility of proceeding to an Honours degree at the end of the course).

Applications were also invited from suitably qualified graduates for admission to courses leading to the degree of:

MASTER OF ARTS
 MASTER OF EDUCATION
 LICENTIATE IN SACRED THEOLOGY

PROGRAMME OF SEMINARS WITH PROFESSOR ARVID PARDO

During the last two weeks of July, 1989, Dr. Arvid Pardo held a series of seminars on the concept of the Common Heritage of Mankind at the University.

Dr. Pardo was formerly Ambassador of Malta to the United Nations, soon after Malta became independent. His historic speeches to the General Assembly of the United Nations in 1967 were the springboard for the Third U.N. Convention on the Law of the Sea. The other side of the Ambassador's activities and publications is his role as University Professor, teaching and researching at the most highly reputed seats of learning in the world.

Before coming to Malta, Dr. Pardo attended the 17th Convocation of the International Ocean Institute "Pacem in Maribus" in Moscow, and then went on to lecture at the International Maritime Organisation's World Maritime University at Malmoe, Sweden.

During his visit, the following seminars were given:

The Origin and Definition of the Concept of the Common Heritage of Mankind in International Law.

The Mediterranean and the Law of the Sea with particular reference to security and regional institutions in relation to the global Heritage

Supranational Institutions and National Sovereignty, with particular reference to environmental concerns and the strategy of international law reform

Philosophical Foundations and Economic Aspects of the Common Heritage of Mankind

The Genetic Heritage, with particular reference to international aspects of patent law and transfer of technology

The following oration was delivered by Professor Robert Ghirlando at the Graduation Ceremony:

ENGINEERING AND UNIVERSITY – INDUSTRY LINKS

When I was invited to be the orator at this Graduation Ceremony, I had no doubts that I had to speak about Engineering, Industry and the University. Engineering in particular and what it stands for, its spirit, its philosophy badly need to be explained. Also, I could not possibly miss this golden opportunity for a bit of free publicity for Malta University Services. Hence I make no apologies if this oration sounds like a public relations exercise; most orations do anyway.

It is a well-known fact that Engineers do not write or speak much in public, because of which they then do not get much credit for their work. Notice, for example how design engineers are never given due credit for their work unlike other designers. Even our well-beloved Dean, a professional trumpet-blower, never blows his trumpet unless in an orchestra! It is important that we Engineers speak out on technical matters, on Engineering and Technology, because there are too many non-technical people doing it for us.

The matter is not trivial since it underscores the serious and age-old question of who owns technology and perhaps even more important who controls it. It is clear that ownership and control of technology lead to military and economic power, which is why in the past all engineering was military. It was only around the middle of the 18th century that there arose a new class of engineers whose works were not exclusively military and by way of distinction came to be known as civil engineers.

I doubt whether we shall ever find a definite answer to this question. Instead we seem to find temporary *modi vivendi* which change as society evolves. Ownership and control of technology and the other problems related to Intellectual Property Rights are very closely linked with the kind of society we build for ourselves. And that is something which we cannot leave to either the politicians, the industrialists, or even to the engineers but which we must sort out as a collectivity.

Again, I repeat, the matter is not trivial; just look at our environment. And the ecological problem is not technological. It is primarily due to the imbalance between the rate of consumption and the rate of technological development. Thus notwithstanding the great strides and quantum leaps of technological progress, and the accompanying process of ephemeralization, that is of doing more with less, we cannot catch up with consumption. To restore the balance we not only need to increase even further the rate of technological progress but we must also contain consumption, and that is a political and economical problem.

Technological development progresses in leaps and bounds. When a technology nears the end of its useful development life, a quantum leap takes place and we start all over again. Thus when the piston engine could hardly be developed further as an aeroengine and had become a very complex and sophisticated piece of machinery, Whittle invented the jet engine. Similarly when the thermionic valve was becoming a very complex and sophisticated array of wires in a glass only a couple of decades ago, along came the transistor, to be followed soon after by the integrated circuit.

There must be a number of technologies that are at the end of their development lives and the nation that can foresee the next quantum leap and prepares for it first, is at an advantage. One of our problems in local industry is that we do exactly the opposite. When we start an industry we begin by manufacturing the simple things, which other people have already been making for many years and that they can therefore make for next to nothing.

We should therefore be looking out for those technologies still at the threshold of development and about which we know as much as anybody else, that is very little. We then have the same handicap as the other runners. For this we need innovative, imaginative and creative engineers, (does one call them imagineers?), and not the kind of industrial fodder that one suspects is what is really wanted by some of our industries. Lamentably there are foreign firms operating locally that do not allow their engineers in Malta to be creative and are only using them as glorified operators. Fortunately there are also others that do the opposite and these are more likely to stay here.

The ability to be innovative is one of the characteristics of the professional. To be innovative requires a wide education, the ability to think for oneself and the guts to take risks. This is why we have been insisting that the Engineering degree course cannot be less than four academic years and even that may be on the short side.

Engineering is both an art and a science; it is in fact the art of applying science. It is an art because it often relies on creativity and ingenuity (which like engineering is derived from the latin ingenium). It has been said that engineers know that it will work but not necessarily why or how. It is a science because it uses scientific principles and facts and the scientific method. Nowhere more than in Engineering can the proverbial pudding lead to indigestion. We are soon made aware of any mistakes in our calculations, sometimes unfortunately by their disastrous effects. While other professions are allowed to bury their mistakes, we run the risk of being buried or burying others by ours. Our logic cannot be faulty, otherwise our mechanism, control circuit or computer program would soon reveal our error.

Engineering design is a balance between intellectual effort and expenditure of physical resources. The more complex the calculations, the more thought goes into a design, the more economical will the design be in terms of materials and energy. Some artefacts would not work at all unless considerable mental energy is expended at the conceptual and detail design stage. Typical examples are the jet aircraft, the computer, the turbocharger, and synthetic lubricating oils. These then are the products of hi-tech. In thermodynamic language, the higher the technology the lower the conceptual and physical entropy of the product.

The layman not versed in design cannot always appreciate the intellectual effort that has gone into a product; after all, a solution is elegant because it appears simple. Ingenuity too has the characteristic of appearing simple. Although electronic devices are not always ingenious or elegant design solutions, they are always mysterious in operation, since they work in a physical environment outside man's sensorial world; until they give you a shock. That is why hi-tech is almost exclusively associated with electronics by the layman.

Design without construction is futile, though perhaps interesting as an academic exercise. The integration of design and manufacture cannot be overemphasised and here is one instance when university's links with industry become useful. I am particularly proud that I obtain the design projects for my final year mechanical engineering students mostly from industry. Ironically enough, it is a time-consuming task getting ideas from industry not because of any reticence or lack of ideas on the part of my friends in industry but because of the difficulty of actually getting them on the phone.

Engineering is not only about design and construction. It is also about repair and maintenance. Since machines and equipment are built to be used and often abused, they suffer from wear and tear and ill-use. We should not underrate the intellectual effort and skill which are sometimes required to repair or maintain equipment. After all medicine is only about repair and maintenance, though of course of that most beautiful and complex piece of engineering, the human body. The difficulty of certain repair jobs explains why it is often cheaper to throw away and replace.

Malta University Services (MUS in short) may not exactly be the kind of foundation Professor Griffiths had in mind, in his recent oration, for our University, or Stadium Generalis (sic!) as reported by our University Gazette. But then MUS is the modern equivalent of the old foundations and by taking a shareholding in a limited liability company, the University has well and truly entered the commercial world, and there can be no stronger link between University and Industry than that.

MUS is different things to different people; to each of those directly connected with the company, it is the panacea for their problems. In a way this is fine, although the company cannot be all things to all men, especially in its present form of a one-man band. The idea that each person connected with the company sees it as the solution to his problems may be acceptable in the sense that MUS is a multi-faceted tool. At the moment the tool is still relatively unformed, though not blunt and it is up to us, as the toolmakers to give it the shape we would like it to have.

MUS is giving us academics the opportunity to prove that we do not live entirely in an ivory tower and that we are capable of practising what we preach. I appreciate that we must not let this commercialism run away with us and distract us from our academic vocation, but the experiences to be gained from doing real work can be of great value to our research and teaching.

We need to make clear distinctions between academic exercises carried out by students and professional consultancy work. The aim of the former must be to educate the student and cannot be restricted by any commercial considerations. On the other hand, professional consultancy work should be paid at commercial rates, because only that way can there be contractual obligations and responsibilities between the parties. And only that way can the "client" be assured that he will be served. Clients must understand that good quality work cannot be cheap; although it can, like a Shakespearean sonnet, be both economical and rich. Nor can it be hurried, though, like a Sousa march, it can be played fast and in time. This means that we must find ways of synchronising the fast tempo of industrial work with the slower tempo of academic activity.

Certainly the most exciting part of the work of MUS is doing what I mentioned earlier on, looking out for new technologies. Hence I am trying to create the conditions within the company which will encourage these kind of innovative, imaginative and creative projects. There is an element of risk attached to these kind of projects which the company must be ready to take.

In the present shortage of skills, the University has a role to play in providing not only degree courses but also short courses on specific subjects. MUS has already proved itself very useful in this respect and a number of courses have already been organised through it with the interest in running courses on the increase. With the recent appointment of a Short Courses Manager at MUS, the Campus has, perhaps for the very first time in its history, a person delegated with the specific task of organising and encouraging our short courses programme.

I end this oration with the customary words of congratulations to the Graduands who are about to receive the reward of many years of study and labour as student-workers! Today we are also witnessing the fall of the last bastion of male chauvinism with the first two ladies to graduate in Mechanical Engineering and I am particularly happy that on this occasion the orator was chosen from that same Department.

I thank you for your kind attention.

UNIVERSITY GAZETTE

*All matters for publication in the next issue of the Gazette
should be sent to the Registrar not later than
the 21st December, 1989*