

## DOCTOR IN SCIENTIIS

### **Craig Radford Barrett**

Quid illustrius, Academici docti, Archimede Syracusano, viro praeclari ingenii et magnarum rerum inventore? Qui, ut scitis, liberaliter illud suum ‘εὔρηκα’ habendum tradidit oris Hesperiiis novi mundi, unde oriundus est mechanicus mirabilis et mercator munificus CRAIG RADFORD BARRETT. Magno cum gaudio ad vos duco virum sapientem, inventorem ingeniosum et sollertem fautorem studiis novissimae cuiusque artis informativae ad usum humanitatis quam maxime aptis. Quem Stanfordiana Universitas adulescentem aluit, iuvenem accepit professorem scientiae quae ad materias pertinet, cuius principia perlucide ille exposuit volumine adhuc maximae auctoritatis. Sed vero si ex imperitis quaesiveris vel etiam indoctis, quid praecipuum fecerit ille, omnes ad unum respondebunt: ecce integratorem ipsum intelligentem communicationis novissimae quam Graeco verbo dicimus electronicam. Videtis enim praesidem, ducem, principem ipsum qui officio quinque et triginti annos perfecto iure gloriatur, se machinas mirabiliores quam ullae antea fuerunt (quam arduum est invisibilia tractare!) inventas extruxisse et produxisse innumerabiles — machinas dicit quamvis parvas, quae tamen sicut mentes hominum materiam accipiunt acceptamque ita tractant ut non nisi mutata penitus natura rursus emittatur. Longum est, docti sodales, omnia enumerare praemia, quibus decoratus est, ut nuper emblemata technologiae humanissimae. Longum est, si dicere coner quam multi et quanti consules nationum eum consulere soliti sint. Tria modo documenta illius prudentiae ad vos adducam. Primum, Nationibus Confoederatis praefuit patronus technologiae ad informationem et communicationem pertinentis, quanto auxilio inopibus ubicumque sint terrarum possit subvenire. Deinde, ipse Americanorum praeses eum adscripsit concilio doctorum liberalium qui libera studia in scientiis mathematicis physicis technologicis promoveant, ut aequatio numerorum in aequationem bonorum mutetur, discipulis acie quadam instructis, armis ingenii paratis ad omnia certamina vitae. Tertium, eximia pietate coluit proavos Hibernicos, quippe qui optimis nostris inventoribus et negotiatoribus succurrit ad opes et spes Hibernicas renovandas; qui duces nostrarum civitatum exhortabatur, quinque abhinc annos in villa clarissima Dubliniensi, ut maioris quam cetera pretii facerent (ut ipse iam saepe) institutiones studiorum. Quorum vero cultu ac disciplina totos nos dedere et in qua omnia nostra ponere debemus, si prosperitatem petimus aequam. ‘Si ingenio credideris, mundi tibi porta patebit.’ Quod hic, sententia sapientum Orientalium usurpata, fideliter promisit orator apud comitia Universitatis Coloradensis, id solutum miramur in comitiis his nostris et laetamur.

## DOCTOR IN SCIENCE

### **Craig Radford Barrett**

Can you, colleagues, think of anyone who better personified scientific thought and technological inventiveness than Archimedes of Syracuse? The sunny land, on the New World's West Coast, which appropriated the ancient scientist's motto gave birth to the eminent engineer I am honoured to introduce today. CRAIG RADFORD BARRETT, eminent engineer and business executive, incarnates the very spirit of creativity in information and communication technologies for the advance of societies. This alumnus of Stanford University, where he also taught as Associate Professor of Material Sciences for ten years, is known to the scientists among you as the co-author of *Principles of Engineering Materials*, one of the most widely used text books in the world on the subject. Many others will recognize in him the leader of Intel Corporation, which he joined as a young man and guided as President, Chief Executive Officer, and finally Chairman until 2009. You can hear the engineer's pride in his thirty-five years with Intel: 'We build the most complicated things that human beings have ever built,' he says of microprocessors, 'First of all, you can't see what you're building, and you're building a lot of them.' The First Global Award for Outstanding Contribution to Humanity through Information Technology is one of his international recognitions. Policy makers whom he has directed and advised, in North America and worldwide, are too numerous to be named individually. I mention three memorable roles he has taken just in the past decade. As the first Chairman of the United Nations Global Alliance for Information and Communication Technologies and Development, he has championed the role of Information and Communication Technologies in the economic development of deprived parts of the world and disadvantaged segments of society. In 2010 he was appointed by the President of the United States to the Board of Directors of the aptly named non-profit coalition 'Change the Equation': 'provide math and science for every child, and you will make them capable of initiative and innovation, successful competitors, and future leaders.' And he has been mindful of his Irish ancestry: as Chairman of the Irish Technology Leadership Group he is restoring the hopes of Irish entrepreneurs. At the first Global Irish Economic Forum convened in Farmleigh five years ago, he urged our political leaders to invest in the creation of knowledge. He most certainly and generously has done so, believing that education is the key that opens doors to opportunities. In a recent address to newly conferred graduates in Colorado, he shared with them a treasured piece of Chinese wisdom: 'The world will always accept talent with open arms.' On this day of Commencements, we applaud him as the living proof of his promise.

## DOCTOR IN SCIENTIIS

### Atsuo Fukuda

Physici illi antiquissimi, si creditur Senecae philosopho, crystallum appellarunt aequae hunc perlucidum lapidem quam illam glaciem ex qua fieri lapis creditur (*Nat. Quaest.* 3.12.25). Quibus si forte dixerit quispiam esse crystallum liquidum, haud dubio is omnino insanire videretur. Non ita mihi, non vobis, sodales sapientes, gratulantibus speculatorem naturae acerrimum ATSUO FUKUDA. Bene meruit professor philosophiae naturalis de Collegio illustri ad studia technologica praeposito in celeberrima praefectura Japonica. Peritissimus et physicae et chemicae scientiae, structuram elaboratam scrutatus plane hoc vidit, crystallinas particulas cum glutinarentur in se habere intervalla: transitiones enim quasdam cernebat a solidis structuris ad liquidas in vices, ordine particularum nunc turbato nunc pacato, binis polis electricis (mutuato verbo a Bacone) nunc adversis nunc inversis — se quid amplius de istis arcanis? Aspicite modo instrumenta vestra, vel photographica vel computatoria, vel televisifica vel telephonica, omnia, inquam, quae verbis quamvis alienis appellata in usu cotidiano habetis; aspicite, si undis subnatant soliti estis, subtilia instrumenta horologica: crystalli illi liquidi simulacra reddunt nitidissima. Veniam date, Academici, oratori huic imperitae si minus definite aut dilucide quam debuit tanta portenta exposuerit. Nam impar equidem sum hospiti nostro sapienti, quem de crystallis liquidis eorumque ratione et usu feliciter disserentem saepe audiverunt indocti, saepissime discipuli centum, quorum plerique officiis insignibus perfunguntur in regionibus australibus Asiae; quem legerunt docti universi, quadringentis libellis editis et probarunt; quem denique praemiis insignibus decorare docta collegia ad studia subtilis materiae crystallinae dedita per orbem. Collegium vero nostrum minime neglexit, immo fideliter auxit. Duodecimus hic annus est ex quo primus in podium ascriptum viro illi Academia Suetica laureato ascendit; paucis diebus post comitia nostra huc eum sequentur docti fere sescenti ab omni parte terrarum ad concilium sollemne vocati de summis rebus ad liquidum crystallum pertinentibus. Raro hospite a sole oriente exsultat Hibernia insula; exsultemus igitur nos, cum sodalem egregium accipimus nitido carmine poetae sapientis (Lucr. 5.281-3):

Largus item liquidi fons luminis, aetherius sol,  
inrigat adsidue caelum candore recenti  
suppeditatque novo confestim lumine lumen.

## DOCTOR IN SCIENCE

### **Atsuo Fukuda**

The founders of physical science in the West invented the word *crystal* to designate ‘the transparent stone which resembles ice, and the ice from which the stone is supposed to be formed when all moisture has gone’ (Seneca, *Natural Questions* 3.12.25). The liquid crystalline state in between crystal and liquid would have struck them as a contradiction in terms. We are proud to greet here today a man who has brought the prodigious reality of liquid crystals to our everyday life. ATSUO FUKUDA, Emeritus Professor and Chair of Organic Material Physics at the prestigious Tokyo Institute of Technology, has searched into the inner recesses of nature and observed important transitions between solid and liquid state, between order and disorder. His discoveries concern the crystalline arrays of electric dipoles which, depending on their orientation, scientists call antiferroelectric or ferroelectric liquid crystals. Does this sound impossibly complicated? My friends, look at the viewfinders of your cameras, screens of TV, laptops, desktops, mobile and smart phones; those of you who practise deep water diving would use special watches: behind those complex applications lie the secrets of your sophisticated displays. In his own words (he is a wonderful communicator of science to the general public): ‘liquid crystals research has grown in recent years to become an exciting interdisciplinary field with important practical applications’. He is a scientist esteemed worldwide, with an impressive record of some 400 publications, over 100 research students supervised, and special recognitions awarded from the Society for Information Displays and the International Liquid Crystals Society. Always an inspiring mentor, his former students now hold the highest positions in universities and industry across Japan and South Korea. He has been a friend, collaborator and supporter of our College for over a decade, since his first visit as Science Foundation Ireland Walton Professor in 2002. Six hundred scientists will join him at the 25<sup>th</sup> International Liquid Crystals Conference in our College next week. It is a rare privilege to welcome a child of the Land of the Rising Sun to the scholarly community of green Hibernia. Let us greet his entrance to our Academia singing an apposite hymn from the most scientific of our ancient poets (Lucretius, *On the Nature of Things*, 5.281-3):

Likewise, that bounteous source of liquid light, the sun in heaven,  
Ceaselessly floods the sky with fresh brightness,  
And at once supplies the place of light with new light.

## DOCTOR IN LITTERIS

### Amos Oz

Nescio quis dixerit scriptorum calamum tamquam conscientiae vocem opportune praeberi suae cuiusque patriae; talem enim scriptorem habet Israel AMOS OZ. Cuius per scriptis innumeris loquitur conscientia ipsa purissima populi Hebraici, suavibus modis sermonis quamvis vetusti, intacta tamen venustate – utinam Latinus sermo sic revivisceret! De pace ac concordia loquitur, de humano vere coetu hominum, inanibus somniis tandem fugatis. Qua mortalibus fas est cursum vitae dirigere, vir hic impavidus suum direxit, sic vitae ut calami. Fortissimo cognomine sibi dedito admodum adulescens domum natalem reliquit, rurali civitate familiaque adoptatus apud saltum quem dicunt Huldensem. Ibi viginti per annos operam strenuam dedit, calamum suum iuvenilem exercuit, magister ludi discipulos diligenter instruxit litteris ac philosophia, dum iam foras clamant, immo sibi vindicant docti studiosi. Cum deinde a silvis illis frondosis ad aridam solitudinem descendisset, factus est professor litterarum Hebraicarum apud Universitatem Davidi illi consuli dicatam in Bersabee. Nec spatium nec calamus meus mediocris sufficit magnitudini numeroque honorum quos iure ac digne accepit pro ingenio scriptoris, pro hominis pietate, virtute atque humanitate. Hi eum equitem primorem, illi ducem bene meritum appellant; sunt etiam qui prophetam Israelis aevi recentioris salutent: quod, si quaeris, valde displicet homini prudenti: ‘caveto prophetas,’ inquit, ‘praesertim cum futura praedicunt.’ Hoc unum tamen laetus libenter praenuntiat, tempus iam adesse ut pax fiat in patria divisa. Unde scit? Fabulator est, non dogmatistes: cordis motus et curas intelligit, animi conversiones agnoscit. ‘Animum advertite, lectores,’ inquit, ‘nihil est bellum quod multo maerore in patria patimur nisi fabula tragica, in qua proeliantur probi cum iustis. Necessesse est certamen incertum alterutroque more solvatur. Si fabulam explicarit vates Avonius, Iustitiam triumphantem ducebit in medium cruorem, personis fabulae ad unum exterminatis; si autem Maeotius, personas misererrimas quidem, omni spe frustrata, exhibebit in exitu, sed non exitio.’ Scriptor hic longinquo abhinc tempore vatem et Musam sibi delegit, quod (nonne sapitis, sapientes?) multum est, utrum vivis an non. Quam ob rem eius fabulae omnes, spiritu ipso vitae, ut ita dicam, redolent nunc maesto nunc festivo, sive ‘alibi’ sive ‘familiariter’ personas fingat; sive iter faciat ‘per terram Israel’ sive ‘de Libanis clivis’; sive ostendat, ut nuperrime filia docta adiutrice, quanti momenti sit stirpi Iudaicae scriptura, tum sacra quam saecularia. Hic scriptor est qui spiritum inflat vitalem et alat, urgente animo inquieto; testatur fabula illa quam ipse percontatus est de amore et tenebris suis. Dum mirati salutamus, eius patriae inquietae fervidi exoptemus vitalem spiritum pacis.

## DOCTOR IN LETTERS

### Amos Oz

Someone said that countries need writers as their voices of conscience: Israel has AMOS OZ. This voice is modulated on the inexhaustible tunes of the Hebrew language, ancient and yet distinctly alive. It speaks on behalf of a peace-loving and pragmatic conscience. In as far as it is possible for human beings to steer the course of their lives, this writer has scripted his. He chose for himself the name for 'courage and strength' at the age of fourteen, leaving home for the kibbutz Hulda. There he lived, worked, fought for over twenty years; there he wrote his first stories; there he taught literature and philosophy to secondary school children, while the most distinguished academic institutions, from Oxford to Berkeley, invited him to be their Writer in Residence. He moved to the dry South nearly thirty years ago, where the Ben-Gurion University of the Negev in Beer Sheva made him Professor of Hebrew literature and Chair of Modern Hebrew Literature. This little page cannot mention half of the prizes awarded to him, over nearly forty years, for his literary work, for his moral responsibility, for his peace activism. He has been raised to the highest rank in the Légion d'Honneur and in the Order of Civil Merit. The world hails him as the modern prophet of Israel. Not a title he is comfortable with: 'It is dangerous to make prophecies,' he says, 'especially about the future.' There is one prediction, though, he gladly offers: peace is possible. As a storyteller, he knows that people – unlike ideas – are, in his word, 'open-ended'. Since 1967 he has argued that the grave conflict in his country is a tragedy in the classical sense of the word: it is a clash between right and right. How does a writer resolve a tragedy? If you ask him, he would reply: 'If you are Shakespeare, in your final act justice prevails, the stage covered in death and blood; if you are Chekhov, the final scene has everyone disappointed and disillusioned, but *alive*.' This writer has long chosen his style. Compromise is not, in his vocabulary, a sign of lack of integrity. It is synonymous with the word *life*. Life – in all its complicated irony – breathes through the lyric of his novels, from that first *Elsewhere*, *Perhaps* to the most recent *Between Friends*; through his passionate journeys *In the Land of Israel*, down *The Slopes of Lebanon*; through the pages of his recent proclamation – in duet with his daughter Fania – of the unique bond between *Jews and Words*. His writing itself is an act of life giving. He tells us himself, in his *Tale of Love and Darkness*: 'And in fact that self-same strange urge I had when I was small – that desire to grant a second chance to something which could never have had one – is still one of the urges that sets me going today, whenever I sit down to write a story.' Our wish to him, as he receives the tribute of our admiration, is that his country may soon enjoy peace.

## DOCTOR IN UTROQUE IURE

**Maria Patricia Martina Redmond**

‘Sin autem quaereretur quisnam iuris consultus vere nominaretur, eum dicerem, qui legum et consuetudinis eius, qua privati in civitate uterentur, et ad respondendum et ad agendum et ad cavendum peritus esset’ (Cic. *De Orat.* 1.212). Ex quo genere viros bonos iuris peritos nominavit patronus ille quo nemo fuit facundior in Roma; res publica nostra hanc feminam impavidam spectat, patronam legum et humanarum et divinarum, armis iustis paratis ad defendendam hominum dignitatem ubicumque periclitetur. Nec minus docta quam pia MARIA PATRICIA MARTINA REDMOND. Exercitiis academicis feliciter excultis apud Universitatem Nationalem Hibernicam, discipulam accepit illa Cantabrigiensis, sodalem mox salutavit ac praeposuit studiis in utroque iure; admisit deinde in concilium ad sollemne Collegi conditi celebrandum vocatum, sodalem tandem honoris causa creavit. Incredibili autem audacia Cantabrigienses honores ausa relinquere domum redit. Magnum fecit mulier, quod nullo auxilio de controversiis contentionibus iudiciis agebat in Urbe temporibus illis. Miramur nunc peritissimam sociam iurisperitis quam maxime illustribus, nuperrime palma iustissima ornatis; miramur feminam doctam quae summa auctoritate disseruit (ut iam discipula doctorum Cantabrigiensium) de iniuriis, si quae laborantes patiuntur demissi, nec non de secessu quodam a labore vel negotio. Quis est quin eam libenter consulerit? Nonne auxilium saepius adduxit argentariae illi Hibernicae, nonne societatibus eximiis negotialibus, nonne denique fautoribus omnibus aequalitati ac dignitati et ingenii et laboris? Fortiores etiam virtutes quam doctrina peritia sagacia exhibuit dum civibus inopibus pietate succurrit. Quid multa verba? Ea faultrice rota volvitur illa quam laudat turba quaedam voluntariorum; ea adiutrice securi habitant inferiores loco atque infirmi senectute; ea conditrice pium hospitium et refugium tutum sollicita cura praebitur orbatis spe salutis vel lumine vitae vel coniuncti cuiusquam carissimi. Trigesimus hic est annus ex quo candidata nostra, abstersis lacrimis post funus acerbum, lucem quandam in tenebris perspectam reddere voluit omnibus lympha vitali destitutis. Quid iustius, quid sanctius quam solamen mali, solacium luctus praebere quiete (ut voluit poeta Hibernicus) familiari et benevola, secreta vel immo sacra? Haec est pietas, haec sunt praecepta iuris magnanima. Gratias maximas agimus patronae piissimae. Placeat, amabo, sententia Beati Francisci:

Solis unus radius multas diffugit umbras.

## DOCTOR IN LAWS

### **Mary Patricia Martina Redmond**

‘But if it should be asked, “Who truly deserved the name of a lawyer?” I should say that he deserves it who is learned in the laws and in that general usage which private persons observe in their community life, who can give an answer on any point, can plead, and can take precautions for the interests of his client’ (Cicero, *On the Ideal Orator* 1.212). Learned men of integrity, with an exceptional sense of responsibility, incarnated this model in the eyes of the ancient Roman lawyer. Modern-day Ireland has in MARY PATRICIA MARTINA REDMOND a fiery female voice to sponsor the case of the wronged, the suffering and the bereaved. Her brilliant academic career took her from University College Dublin to the University of Cambridge, where Christ’s College greeted her as a Fellow and Director of Studies in Law, received her on its Quincentenary Board, and now counts her among its Honorary Fellows. Leaving Cambridge behind to return home was a brave decision; establishing a law firm in her own name was no mean feat in mid-1980s Dublin. She is now Consultant Solicitor at Arthur Cox, the prestigious practice acclaimed as Irish Law Firm of the Year 2014. A leading figure in Employment Law, she has authored such influential texts as *Dismissal Law* – her primary interest since her Cambridge doctorate – and *Strikes: An Essential Guide to Industrial Relations*. Who, I ask you, has not sought her counsel and directorship over the past three decades, from Bank of Ireland to Smurfit, from the Employment Equality Agency to the Higher Education Authority to the Labour Relations Commission? But even more than her intellectual gifts and professional expertise, care and compassion have shaped her widest reaching service to the community. ‘The Wheel’, now in its fifteenth year, is but one example of her support to voluntary work and its representation in Irish society. Through the Iveagh Trust she pleads on behalf of the homeless, the elderly, the disadvantaged. Finally, compassionate friends, let us acknowledge her as the leading light for the hospice movement in Ireland. The Irish Hospice Foundation was born, nearly thirty years ago, out of her vision—a vision beyond the shadows of mourning and loss. She helped to build the conditions of care and solace which Seamus Heaney acutely defined ‘familiar, kindly, silent; something approaching the sacred, the secret at least’. No kinder service can be rendered to a human being than comfort at the cruellest of times. Thank you, admirable advocate.

A single sunbeam is enough to drive away many shadows.

(St Francis of Assisi)