
How many cultures? ‘Real presences’ and the healing of the academy

TOM McLEISH

Department of Physics and Astronomy, University of Leeds, UK

WILSON POON

Department of Physics and Astronomy, University of Edinburgh, UK

In this paper we re-examine the relationship and possibilities for discourse between the academic disciplines called ‘sciences’ and those known as ‘arts’. Do they represent one culture or two? An apparent diversity of views emerges in two contemporary writers, George Steiner and Nicholas Lash, the former differentiating the two, the latter insisting that the ‘two cultures’ debate itself is misconstrued. We follow the principal threads of both arguments in the light of an intimate involvement with the practice of science and its communication in public and academic contexts. Visiting aspects of both arts and sciences that distinguish them from other disciplines, the role of theory, and the twin purposes of function and contemplation, we find that much of the pain of discourse between them arises from a failure to recognise common structures and functions. As a result, either function or contemplation may be overemphasised at the expense of the other. We suggest directions in which the tensions might be resolved in both public and academic arenas.

Interdisciplinarity, though enshrined in the title of this journal, is a word full of tensions and transience. What do we find ‘between the disciplines’? If not a discipline itself then what does inhabit this no man’s land? Why is so much effort spent in debating and policymaking within the grey spaces between our common centres of activity, and what is the dynamic of interdisciplinary work – to reduce the intervening distance, to fill it, or to travel over it hurriedly from one safe haven to another? From time to time we do well to reflect on the need for the go-between activity of interdisciplinary studies. We do better still to begin in the company of thinkers who have trodden before us the cultural courses between the comfort zones of western academia with great learning and deep reflection.

One such thinker is George Steiner, literary scholar of an international dimension, and significant among professors of letters as one who regularly comments, with more than passing acquaintance, on science. His remarkable lecture, or ‘Festival overture’, which opened the Edinburgh Festival in 1996, sounds both celebratory and cautionary notes for the arts.¹ He rejoices in their potential for dazzling invention, but mourns both their generation of layers of ‘secondary thought’ and their moral neutrality – that ‘we now know of ... their performance in the company of barbarism’. More remarkable in one who clearly loves ‘high art’ deeply are his subsequent remarks on the sciences:

Today, it is noon-time not in the arts but in the sciences. An estimated ninety percent of all scientists in history are now alive. Whereas the study of the humanities, the editions of the classics, the performance of established

western music, ... looks backward, science is, by very definition in forward motion. ... In the theoretical or applied sciences, even a middling talent is on an upward escalator ... Theorems will be solved, crucial experiments performed, discoveries made next week and/or the week thereafter.

Not even the UK research councils in the face of another Comprehensive Spending Review resort to such hyperbole! Yet Steiner is not glib, nor is his analysis made merely in a glance from one entrenched discipline towards another, for he warns his audience not to overlook or fail to capture ‘the shift in our fundamental energies and joy’. The implication is horrific for those who have spent decades struggling to escape the straightjacketed and divided view of the ‘two cultures’ offered by C. P. Snow in his famous Rede Lecture.² For can the implication of Steiner’s remarks really be true: that people however ‘cultured’ but unequipped to read the symbols of science must miss out on such a consummation of ‘elegance, beauty and harmony’? Steiner would dolefully affirm that all this is ‘hidden from all who cannot master the language, dare one say, the poetry of algebra’.

Yet other wise voices would dissent. Turning momentarily to another apparently unconnected published lecture,³ we find Nicholas Lash, former Norris-Hulse Professor of Divinity at Cambridge, in his essay ‘Contemplation, metaphor and real knowledge’ saying:

Even today, when the remaining spokesmen for scientific imperialism sound more like dinosaurs than voices of the future, the myth of ‘arts and sciences’ still exhibits most depressing strength.

In the context of his essay, Lash is urging a historically and philosophically informed understanding of

epistemology on his listeners and readers. More, he wants to show that, rightly understood, this will disclose the ultimately *connected* structure of the web of knowledge that underlies all disciplines: 'Notwithstanding the accelerated fragments of specialised academic activities, we trample in each other's territory, sing each other's songs, whether we want to or not.' Lash is a robust advocate of a unified culture of all disciplines in which each is bound up with the language and developing meaning of the others. In such an academy, all will sink (into nihilism, or the Sisyphean task of endlessly secondary thought?) or swim (into Steiner's noonday of the new?) together. Moreover, Lash locates the origin of the 'two cultures myth' in the unique linguistic specialisation of the word 'science' in the *English* language, and its propagation as a result exclusively in North America and Britain.

It is surprising to find two informed and sensitive spokesmen for the humanities seeming to disagree so strongly and so clearly over the existence of a divide between artistic and scientific disciplines. It is hard to reconcile Lash's view of disciplines as elements of a single structure (or linguistically, of *Wissenschaft*, or of *la science*, uniting the divisions of a degenerate and overspecialised English 'science'), with Steiner's vision of opposing dynamics between at least two parts of that structure. Unless, that is, the structure is presently and precariously intact (*à la* Lash) but about to be torn asunder (*à la* Steiner)! The mystery deepens when we notice that Steiner and Lash have communicated publicly without any need for the artificial juxtaposition of their essays that we have imposed. A decade ago, Steiner's short but intensely moving critical analysis of deconstruction and hope, 'Real presences',⁴ elicited an equally felt response⁵ from Lash in his Aquinas Lecture at Blackfriars, Cambridge, patterned on Steiner's theme of Friday, Saturday, Sunday.⁶ Post-Holocaust Jew and post-incarnational Christian reflect together on how we might celebrate, hope, pray over creation in the face of the 'Friday' of death, hopelessness, and the retreat of meaning, yet before any 'Sunday' of reconciliation and resurrection. We have responded ourselves already to this moving and reverberant text from the position of practising scientists,⁷ but here need to draw out from the weave of Steiner's development the thread that palpably differentiates 'arts' from 'sciences'. Although less explicit than in his 'Festival overture', their difference is so central to his thesis that we would have expected Lash, highly sensitive elsewhere to any resonance of the two cultures myth, to have moderated his welcome of 'Real presences' with some elements of his monocultural vision.

'Real presences' is structured in three parts, 'A secondary city', 'The broken contract', and 'Presences'. The first laments the proliferation of secondary and tertiary activity in the arts and letters – the infinitely recursive generation of commentaries on commentaries. It provides evidence for the second part, which claims that modernism and its offspring

have broken the 'contract of meaning' (that words refer to exterior reality). A consequence of the broken contract is the debasing of the idea of *theory*. The third section amplifies the theological necessity and nature of this contract between 'word and world', and develops and urges the practise of *cortesia*, or 'welcome', of communicated meaning. An extraordinary coda to the main text outlines the 'Friday, Saturday, Sunday' pattern of hope taken up by Lash. In all three main sections, science and the scientific community are held up as mirrors to the discussion of art and art criticism. We next summarise this strand of argument as it appears in Steiner's book, before examining Lash's critique of the 'two cultures' paradigm more closely.

Steiner's 'secondary city', whose product is the endless self-reference of literary critical papers, is explicitly identified as a failed mimicry of scientific method, driven by political ends: 'The fantastic success of the mathematical and the natural sciences, their prestige and socio-economic preferment, have mesmerised humanists and literati.' Steiner's point is that art, literature, theatre, *do not* proceed 'by research' as do palpably the sciences, and that such a false assumption in university faculties everywhere has been calamitous. He points out in evidence that whereas progress in science is both cumulative and *collective*, neither attribute can be demonstrated in the arts. More, that by responding to the need for 'adoption' by academic criticism and teaching in the academy, painters and authors begin to assume a servile role that puts criticism before creation, the artificial before art.⁸

'The broken contract' moves us on from the form of 'research' to the content of 'theory'. From the word's original task of describing the activity of those who observe and witness sacred rites, through Cartesian and Newtonian constructivism, to the subtleties of quantum physics, Steiner traces the essential 'contract between theory and trial'. One does not need to be a naive falsificationist⁹ to admit the mysterious yet vital way in which 'theory applies'. Yet such a model of how theory functions cannot in Steiner's view be applied to literature, music, and the arts. This is because of the impossibility of anticipating and containing the vast and contingent worlds of association of both author/composer/painter and the reader/listener/observer. He even attempts a definition of these arts, as 'the maximalization of semantic incommensurability in respect of the formal means of expression'. By implication, a definition of science is suggested at the opposite pole of distance between formal expression and meaning. The ubiquitous formalism of mathematics is cited in evidence that 'states of experienced reality ... are accessible only to the numerate, not to the literate'. If the offered 'theories of meaning' in the arts have any value at all, then it is as narratives – stories of thought, as much determined by current political and cultural norms as by a psychological desire to exalt theory over fact. They

are themselves 'poetic genres'. This observation will be significant for us later.

Finally, 'Presences' develops the question 'why is there art?' (when there conceivably might not be) as an explicit parallel to Leibniz's question, 'why is there the world?' (when it conceivably might not be). Steiner's reply is that art allows us to meet and welcome the exterior world. We respond to the fact of creation by creating ourselves. The theme resonates with a scientific reader through its obvious counter-text: 'Only art can go some way towards making accessible, towards waking into some measure of communicability, the sheer inhuman otherness of matter ...'. Only *art*? Reeling from this slap in the face, science is stripped of its pretensions and left to supply a few handy pieces of evidence that the desire for a mythological creation narrative is still with us. It cannot participate in Steiner's essential perception of the re-creation in high art that is a 'wager on the transcendent'. Where is the 'high noon' of science now where a reader might hope to expect it – at the busy interface of the mind reaching out and receiving from 'the other', internalising and symbolising the physical world?

We have noted before that Lash celebrates Steiner's offering in 'Real presences', and for good reason – in his Aquinas Lecture he sought to advocate both an understanding of the times, and a way of eschatological prayer, that are well supplied with cultural and theological material by the book. Lash's project to illuminate the theological foundation of thought and word find strong resonances with Steiner. Yet, as we have seen, Steiner is everywhere drawing distinctions between the way arts and sciences function in the relationship between people and the world, and therefore between the way they supply the raw material of culture and fashion it.

In the lecture we have already cited¹⁰ discussing relations between theology and the sciences, Lash details his critique of the 'myth of arts and sciences'. Unfortunately he does not articulate what he perceives this myth to be, although elsewhere he is fond of typifying scientists' 'lack of appreciation of philosophical epistemology', and of the incomprehension with which 'the rest of us' view the 'trappings of the laboratory'! We can, however, draw from his discussion the things he would like us to hear concerning 'the myth'. First, as we have noted above, the history of the English word 'science' moulds the thinking of native speakers into a prejudged view of the world of knowledge that disconnects physics, biology, and chemistry from other disciplines (and by implication elevates them as some specially reliable way of knowing). Second, he notes (correctly) that there is no single methodology that deserves the name 'scientific', contrasting disciplines in which repeatable experiments are possible, such as chemistry, from those in which they are not, such as evolutionary biology. Third, he points to the huge variety of disciplines in place in universities today which fall into neither category of 'art' or 'science'. Yet we are left as puzzled

by Lash's account of the role and practice of science in culture as we are by Steiner's. For Lash frequently refers to both the 'wordlessness of science' (echoes of 'Real presences'),¹¹ and the predisposition of the scientific mind for the study of 'things' rather than conversation with other minds. Are Steiner and Lash talking past each other, or with the same voice? Do they perceive a current cultural divide within the world of learning as Snow claimed to have done, albeit motivated and informed by very different concerns? When they say, or imply, that the 'two cultures' paradigm is a 'myth', yet engage in sharply honed, even barbed, criticism of one community for behaving (or not behaving) like the other, do they refer to the present moment, or to some ideal reformed academy? What can we learn from their observations for interdisciplinary speaking and listening?

We should make at this point a few observations on the language specificity of the distinction between arts and sciences in academia. Of course we recognise the linguistic point that Lash makes, and the misunderstandings that can arise from it (for example, Karl Rahner, probably the most prolific Roman Catholic theologian of the twentieth century, wrote on the theological implications of knowledge in 'Wissenschaft als 'Konfession'?'. The English translation of the title, 'Science as a 'confession'?' lures the English reader into expecting a narrower cultural canvas than the one Rahner actually covers). However, there is plenty of evidence that French, German, and Italian speakers know about the issue. The French cubist painter Georges Braque ruefully observed of science, in a form very close to its anglicised opposition, that 'L'art et fait pour troubler. La science rassure'.¹² Max Delbrück, the physicist turned geneticist who must be considered one of the founders of molecular biology, questions Lash's suggestion that the scientist is an incommunicative species: 'While the artist's communication is linked forever with its original form, that of a scientist is modified, amplified, fused with the ideas and results of others'.¹³ The recent furore in the French speaking academic world over Alan Sokal's 'Impostures intellectuelles' (significantly published in French before the English edition), have surely exposed as deep a latent mutual suspicion between natural scientists and literary intellectuals as ever surfaced in the affair of C. P. Snow and F. R. Leavis.¹⁴ Steiner, of course, is well aware of the variations of breadth among European languages of the word 'science' and its cognates, but makes no move to locate his sunny views of the scientific enterprise in any specifically anglophone context.

Perhaps Steiner can also help us with the academic narrowness that a merely 'arts and sciences' debate seems to imply to Lash, for he repeatedly takes a narrow choice *within* the arts in which to frame discussion in 'Real presences'. Time and again we are reminded that the object of discourse is exemplified by 'the painting, the play, the sonata'. A natural objection is that this deliberately draws attention

away from architecture, from design, from folksong, to name but a few examples of artistic activities that have been excluded from the realms of 'high art'. But such a complaint already sounds like Lash's concern that the art/science dichotomy passes over the bulk of academic activity to be found in the vocational faculties of law, engineering, medicine, business and in the humanities. Do accusations of narrowness operate as effective criticisms of a divergence of art and science? Or do they reflect the ill focused and political undertones of Snow's original onslaught? Perhaps the interdisciplinary conflicts we seek to resolve do indeed find their dynamic between Steiner's narrowly defined arts and the pure sciences more because of ontological similarities in these disciplines than because of their apparent opposition. We have shown elsewhere how many of Steiner's uneasy observations on art do in fact apply to science in spite of his claims to the contrary.⁷ To take just two examples, both the accumulation of secondary literature, and the degeneration of the contract of language have current and palpable consequences in the scientific community and its wider context. It is simply a lack of familiarity with the essential creative process of science that gives rise to the charge of its 'wordlessness'. A study of the rich, expressive, and creative language coined, developed, and applied in even pure mathematics is sufficient to make the point. And a degeneration of language in both art and science leads directly to the dominance of secondary over primary discourse. When words cease to apply to the world they just apply to each other. Both art and science share this special feature of the 'primary city' in which the core activity is just 'making accessible, towards waking into some measure of communicability, the sheer inhuman otherness of matter ...'. What better definition of science could there be? Yet Steiner is talking about art. At this point we ought to ward against any misunderstanding that we are making naive claims that 'science and art are really the same thing'. It is clear that the creation of a statistical mechanical theory of two fluid separation in flow is not in any sense the same activity as the composition of a movement for violin and piano in sonata form. The similarities arise at the teleological level. Steiner's moving description is relational – the ministry of reconciliation implied by creating human access to the other, and the inspirational 'waking' of matter into communicating with minds both have deeply theological undertones. They are shared by any activity that represents or recreates the world within the human mind and community of minds – the primary activity of a painting or equally of a theory in physics.

In this view, it is surely correct to recognise pain in interdisciplinary activity between arts and sciences. This is not because they represent the sum of academic activity, nor because they talk to each other (or fail to do so) from opposite poles of an ontological world, but because they fail to recognise common features of purpose. In failing to recognise kinship,

and the proper level at which that kinship resides, they also fail to learn from each other (to be 'disciplined') in ways that might make good their current social deficiencies. In this way they not only fail to communicate and complement across the disciplines, but they also fail to be truly themselves. From the superficial contradictions of the Steiner/Lash debate, this is our central conclusion. Now it is our task to draw what consequences we can for the interdisciplining of arts and science within and outside the academy. One caveat: if what we have said holds any truth, the threads of the story have become very tangled indeed, and consequent experiments in interaction are neither obvious nor easy. It will be easier to say of the relationship between art and science (as classically of much theology) what it is *not* than what it *is*. No superficial assertions that art and science are 'really the same at heart' will do; any more than well meant exhibitions of visual images arising from research in physics reach the level at which the knots of the argument are still tied. Yet there are some areas of interaction that our discussion illuminates. Some of these relate to academic discourse, some to the activity known as the 'public communication of science'.

An example: the current critique of science as overly functional, and separated from 'human' values and aspirations, is by no means new. Famous cries against its assault on the human and spiritual are present in Blake, in Keats, in Dickens, in Flaubert. The core of these complaints contains a voiced fear that science will actually destroy the means of our reconciliation with nature ('unweaving the rainbow') rather than nourish it. Jacques Barzun made the memorable analysis that 'science is not with us an object of contemplation'.¹⁵ We do not encourage thinking of science as a shared contemplative activity in the same way that the enjoyment of a painting or piece of music is contemplative. Yet in all cases it is an essential complement to the primary activity of creation (not a 'secondary activity' of criticism). Instead, the public participation in science is relegated at best to an experience of a projected and politicised version of its narrative. Flickerings of intuition, false but alluring trails of thought, are filtered out. Steiner has spoken of experimenting with theatrical media in science festivals of the future. Certainly the potential for public participation in the contemplative process that might have threaded the meetings of Niels Bohr and Werner Heisenberg has been successfully demonstrated by Michael Frayn.¹⁶ We can here only delineate how a contemplative enjoyment of science might be developed, but both visual and narrative form will have important roles. Like the performing arts, it will not focus solely on reception without response, but will seek participation in the process of observation, question, and theory. Ancient examples of such a 'common' contemplative engagement with science exist, and might guide us in its reawakening. In his beautiful and striking discourse 'On the soul and the resurrection', the fourth century Cappadocian Father

Gregory of Nyssa records a conversation with his dying sister Macrina (whom he deservedly calls ‘the Teacher’). One of the central thrusts of Macrina’s defence of the existence of ‘the soul’ (which we would probably do better to translate as ‘the mind’) is our ability to look beyond appearances to the structure of phenomena. She cites, among other phenomena on which anyone may enjoy achieving insight, our understanding of the phases of the moon from the properties of reflected light and of the material solidity of air from the bubbling from a bottle held under water. It is still our experience that people of any background can draw immense *pleasure* from their own discovered ability to think, to contemplate below the level of phenomena. It is just a pity that such pleasure is so rare.

Contemplative science is not only for non-practitioners! It is at the heart of deeply creative scientific insight itself, and its loss or suppression within the scientific community at large will impoverish us as much as it impoverishes the public participation in science by removal of a principal mode of engagement. Newton famously remarked, when asked how he came by his theory of gravity, ‘by thinking upon it continuously’. More recently, a Nobel prize winner in biology recommended to an audience of young scientists that they learn again to *look* (down their microscopes) for hours in that contemplative mode that is so powerfully receptive and cannot be hurried. In the context of pressures to produce the next thesis chapter, the next research preprint, and in the face of increasingly automated research equipment, this sounds a note that needs to be heard louder still.

If science has lost the contemplative in favour of the functional, might art not suffer from the complementary bias? What would happen if we were to extend expectations of art from the purely contemplative to the functional? Such opposite weighting of expectation in the two cases, the overemphasis on the functional in science and on the contemplative in art, would add to the effective disguise of their teleological kinship that we have proposed, and help to explain the apparent contradictions we have tried to unravel. Downgrading of the functional in art has in fact formed the basis of recent criticisms levelled at the sort of elevation of ‘high art’ in discussion that we have found exemplified in Steiner.¹⁷ As Nicolas Wolterstorff has insisted, ‘function’ does not degrade. Rather the reverse – a functional view of art broadens its scope, freeing it from the bounds of concert hall and art gallery (and by implication from the minority that choose or are able to enjoy these facilities); it affords the fundamental purpose of reconciliation greater impact. The existence of ‘art therapy’ hints at a vital functional role in the shared practice of art, but at the same time erects institutional barriers around it that carry connotations of pathology. Of course it also hints, in the light of the discussion above, that we might want to think about what the non-existence of the term ‘science therapy’ might

mean. If a reintroduction to the activity of representing both inner and outer worlds in paint and drama can help to heal minds, what hope might there be for participation in a gentle and contemplative science in restoring a broken or misunderstood relationship with the physical world? Both art and science have the wonderful power to render alienating environments human and homely, and the terrible potential to perform the opposite.

Such strong isomorphism with equally strong distinction suggests more a pattern of human interaction with the world in which art and science form orthogonal axes, rather than spanning quite different spaces. We can recognise this idea in the model we have used above to delineate how they might follow both contemplative and functional roles in a structure of continuing education in individuals, and in the engagement of the academy with the wider community. Strangely, it seems harder at first to suggest ways of exploring the ‘space between the axes’ in universities themselves. Perhaps this is more suggestive of the degree to which academic practice has become consolidated along accepted lines than of any inherent incommensurability in arts and sciences themselves. No discipline is free to engage with others when its practices are hardened into social forms of institutionalised ‘research’ driven by prestige, when all opportunity to work across disciplinary boundaries is reduced to committee work, and when all talking about the really central issues is ‘talking past’.

We need to conclude with thoughts of the end! (The theological word is ‘eschatology’.) We have tried to deflect the apparent interpretation of Steiner’s and Lash’s accounts of arts and sciences as contradictory by restricting the scope of a ‘two cultures’ debate to those disciplines that engage minds and communities with representation of the world. We have tried to identify common features that a truly interdisciplinary activity of mutual correction and criticism might share. In particular we have suggested that we might all reflect on our responses to the call for both contemplation and function in our own disciplines by examining their relative roles in others. It is not clear that we will have gone very far to mollify those, like Lash, who advocate a unified view of present culture, typifying as ‘mythological’ the claims of those who would demure. Yet in the face of rather obvious failures to communicate in interdisciplinary territory, might we not find an interpretation of Lash’s reaction in the strongest form of the word *ought*? He (rightly) feels so incensed at the fracture of culture and discipline in general and the peculiar position of the sciences in particular, that for him what *ought* to be true *becomes* true. All that we have said agrees with him that the complementary roles of contemplation and function, of engagement of minds or souls with the world beyond appearances, of wider, more comprehensive, cultural spaces, need desperately to be explored along less rigid and exclusive lines. This is no less than the practice of hope, the activity of Steiner’s ‘Saturday’ that has experienced the Friday

of separation, of pain, of meaninglessness, but still waits for the 'Sunday' of renewal and restoration. Will one day our universities embody and celebrate the unity worthy of their name?

Notes and literature cited

1. G. STEINER: 'A festival overture' (The University Festival Lecture), University of Edinburgh, August 1996.
2. C. P. SNOW: 'The two cultures'; 1993, Cambridge, Cambridge University Press.
3. N. LASH: 'Contemplation, metaphor and real knowledge', in 'The beginning and the end of religion'; 1996, Cambridge, Cambridge University Press.
4. G. STEINER: 'Real presences'; 1989, London, Faber.
5. N. LASH: 'Friday, Saturday, Sunday', *New Blackfriars*, 1990, **71**, 110.
6. The 'Friday, Saturday, Sunday' motif refers to the Easter story of the New Testament Gospels, which have Jesus' crucifixion on a Friday and the resurrection on the following Sunday morning.
7. W. C. K. POON and T. C. B. MCLEISH: 'Real absences in the sciences: scientists' response to George Steiner's *Real Presences*', *Theology*, 1999, **102**, 169.
8. A similar critique of research culture in the arts has been offered by G. H. Gombrich in his collection 'Ideals and idols', together with proposals for an alternative mandate for academic function in the arts.
9. Critical realism would, however, seem to be necessary to go along with Steiner here.
10. 'Friday, Saturday, Sunday', p. 119 (see Note 5).
11. For example, 'the natural scientist, to whom words matter much less than measurement ...' (see Note 5, p.120).
12. G. BRAQUE: 'Le Jour et la Nuit'; 1952, Gallimard, Paris.
13. M. DELBRÜCK: in 'The eighth day of creation', (ed. H. F. Judson); 1979, New York, NY, Simon & Schuster.
14. For a brief but enlightening account of the original 'two cultures' controversy, see Stefan Collini's introduction to Snow's lecture in the edition cited in Note 2.
15. J. BARZUN: 'Science, the glorious entertainment'; 1964, New York, NY, Harper and Row.
16. M. FRAYN: 'Copenhagen'; 1998, London, Methuen.
17. N. WOLTERSTORFF: 'Art in action'; 1980, Grand Rapids, MI, Eerdmans.

IR75649.3.1

Professor Tom McLeish
Department of Physics and
Astronomy
University of Leeds
Woodhouse Lane
Leeds LS2 9JT
UK
TCBMcLeish@aol.com

Tom McLeish took his first degree and PhD (1987) at the University of Cambridge, where he was subsequently a research fellow in theoretical polymer physics. After a lecturership in physics at the University of Sheffield he was appointed to the chair in polymer physics at the University of Leeds in 1993. He has since won several awards in both Europe and the USA for work on molecular rheology, and now runs a large collaborative academic-industrial research programme in this field. He is currently an EPSRC Senior Research Fellow. His research interests include molecular rheology of entangled polymeric fluids, phase separation and morphology, and macromolecular biophysics. He is involved in public communication of science via radio, television, and schools lectures, discussing issues ranging from the physics of slime to the interaction of faith and science, and is a founder member of the Centre for Science and Religion at the University of Leeds.

IR75649.3.2

Professor Wilson Poon
Department of Physics and
Astronomy
University of Edinburgh
Mayfield Road
Edinburgh EH9 3JZ
UK
wckp@ph.ed.ac.uk

Wilson Poon has been Professor of Condensed Matter Physics in the Department of Physics and Astronomy at the University of Edinburgh since 1999. His research has always spanned disciplinary boundaries, starting with phase transitions in minerals and molecular crystals, and then moving (in 1991) into 'soft condensed matter' – the study of colloids, polymers, and surfactants. More recently he has become interested in applying the principles of soft condensed matter physics to biological systems. He has written popular essays on the nature of interdisciplinarity in science (for the magazine *Physics World* and the journal *Contemporary Physics*), as well as publishing articles on the relationship between science and theology (in *Theology* and *Studies in World Christianity*).