

Chapter 4

"Inside the machine"

Enlightened teenagers and the behavioural abacus

Whilst there may well exist sizeable droves of enlightened teenagers amongst us, a significant proportion of undergraduates embarking on psychology courses in the Western world is shocked to discover that, far from having found a quick route to self-discovery (as well as, perhaps, some privately-yearned-for happiness), they are rapidly (and reluctantly) inducted into the obscure world of statistics. The undergraduate curriculum (determined in Great Britain by the British Psychological Society, or BPS, which accredits all serious university courses in the UK domestic countries and has counterparts in other nations) shamelessly forces the subject into the empirical mould. There is a very good, understandable and acceptable reason for this; but also a vastly underappreciated disadvantage that we mustn't talk about. The good reason is that without some means by which we can bring authority to argument other than sheer force of persuasion, we could be teaching the next generation of psychologists nothing more reliable than an anthology of subjective viewpoints. Since, moreover, even the most enlightened of professors can disagree on a matter, how would we ever resolve a difficult psychological issue? By harnessing the empirical tradition that we have outlined, the BPS considers that it can bring to bear a certain objectivity to the discipline. By insisting on observation, measurement and calculating everything psychological on the behavioural abacus, the BPS and its worldwide associates anticipate a scientific consensus accumulating with a rapidity proportional to the quantity of relevant research produced. The psychology research programme competes not only with other disciplines - but with all the contenders in our governments' coffers (the space and military programmes, as well as the health, social and education priorities of the day). It is, nevertheless, big business.

The scientific cart and the epistemological nag

Although it is, indeed, far better that academics and their students are facilitated to agree on at least a few things (goodness knows there are enough intellectual and other cul-de-sacs in a "typical" undergraduate life), we have hidden away what our intuitive students borrowed money for. As psychologists became compelled to observe and measure, thanks broadly to the 20th century behaviorist lobby, their subject had to become observable and measurable. They have redefined psychology for both the undergraduate and lay person and called it a "science of behaviour". The scientific cart has gone before the epistemological nag, and we have become somewhat dumbstruck by the brilliance of the "mindless eggheads". How could this have happened?

Understanding your own vitality

Philosophers have assumed that if we are willing to consider the existence of "mind" at all, it must be one of two things: either it is an epiphenomenon emergent from matter ("monism" or "materialism") - or it exists in its own right and does not rely on matter to do so (then known as "dualism"). It is one of the fundamental challenges of all psychology and, if we have taken our first steps in a spurious direction, we may need to start from scratch to get things right. The vainglorious tendency of philosophers to polarise and dogmatise was described in the very first paragraph of the Preface to this volume. As human understanding of its own vital subjects (let us say any philosophy of life - including psychology and psychotherapy) can be contaminated to the core by intellectual diversions and divisions, some examples of polarisation from ancient and modern history follow.

EXAMPLES OF POLARISATION FROM ANCIENT AND MODERN HISTORY		
Position A	Position B	Exposing dogma ...
The universe was created. ("Creationism")	The universe had no beginning. ("Hawkingism" ³⁶)	Modern physicists, if pressed, will admit that their calculations pertain close to but not at or before a "big bang". They, like the Creationists, moreover, were not there to witness any such event.
God made the world in seven days. ("Fundamentalism")	There is no such thing as God. ("Atheism")	Protagonists on either side will not tolerate the prospect of a sane human adult combining a basic appreciation of Darwinian evolution with a personal, spiritual, even divinely-inspired basis for living.
"Mind" and matter are separate and mutually independent. ("Dualism")	"Mind" is an emergent and / or contingent property of matter. ("Monism")	As the true nature of matter itself let alone the constitution of the universe are barely understood how can we possibly say that mind is, or is not, a property of matter? A final "theory of everything" will be less about what humans measure than it will be "measurably human".
Human beings are masters of their own (and other people's) destinies via "free-will". ("Indeterminism")	Everything that happens is the outcome of one or more immutable natural laws. ("Determinism")	It has never been proven that human "free-will" is not an illusion - yet we haven't discovered all of the natural laws. Reason is not the only path to knowledge if you have experienced the effect(s) of faith which is also an act of "choice".
Right-wing politics rule OK. ("Fascism")	Left-wing politics rule OK. ("Marxism")	Any autocratic government generates gross travesties of "natural justice". Both over-regulated and under-regulated financial markets implode miserably sooner or later.
Men are better than women. ("Sexism")	Women are better than men. ("Sexism")	Biological sex is the nearest to a sharp duality, but even this is not universal ³⁷ . Gender - which has personal and sociological identity connotations - is far less clear: you are what you believe you are.
White people are supreme. ("Racism")	Black people are supreme. ("Racism")	In less than a century and a half ³⁸ (and but for the American Civil War) the USA has progressed from legal slavery to President Obama. Perhaps Barack Obama's inauguration and vision herald the human race's greatest hope for its own survival.

³⁶ We benefit realising that "beginninglessness" is Aristotlean in origin (at least), significantly preceding Stephen Hawking's popular (1988) *A Brief History Of Time*.

³⁷ The human Y sex chromosome affects male fertility and determines gonadal sex (XY is male and XX is female), but there are XY females and other permutations such as Klinefelter's Syndrome (XYY - with testes) and Turner's syndrome (XO - with ovaries) - as well as other chromosomal permutations (e.g., XXX or "supermale") and "intersex" physiological variations - rendering sex determination a grey area in certain cases.

³⁸ Legal slavery in the USA was only abolished in 1865 after the American Civil War (1861-1865) and the victory of the Union over the Confederacy of southern slave states which had declared secession in order to protect slavery-dependent economic interests.



"Rubin Vase": Polar opposites? Or something meaningful between?

"Spiritual blindness"

If there is any single principle running through examples like these, it is that a polarised view rarely, if ever, embodies the whole story – or represents any worthwhile "truth". We might also suspect that the degree of fervour with which a polarised position is defended (especially if violently) is directly proportional to the extent to which its own protagonists may have personal misgivings about it. This (distinctly) human tendency to refuse to accept some (especially psychological) "reality" obvious to others is known colloquially as "denial" or, "Don't Even 'No' I Am Lying". As the counsellor for drug and alcohol problems often quips, "Denial is not a river in Egypt". The helpee already "knows" that they are in trouble using their "drug of choice", but hasn't yet discovered the willingness to assimilate the depth of that "truth" unreservedly. Before the client arrived in treatment, the anomalous nature of their behaviour may not have been "visible" to themselves at all. (Anomalous here means that effects harmful to both the user or misuser and others – disproportionately deleterious compared with any anticipated – inevitably follow use.) We may describe this inability to see one's own denial as "spiritual blindness" (where "spiritual", as we have said before, simply means "unseen"). Such "blindness of blindness" is not tautological because we really do mean that its "victim" cannot see her or his own self-deceit. This second order blinkeredness is reminiscent of the hidden misgivings of the polarised philosopher who cannot see through his or her own agenda. When one cannot see even the shadow-shape of the axe one is grinding (far less admit to its ulterior purpose), one is also "spiritually blind". Perhaps we will never know, under our own auspices, whether as individuals or species of living thing, what degrees or orders of blindness may lie beyond our "seeingness". According to one philosophical position, mankind will never be able to attain an objective perspective of the universe, whatever that is – but which includes ourselves as perspective-takers – because of "inbuilt" limits on our capacity for discovering and understanding³⁹.

A common-or-garden test of pulse

Taking common-or-garden human experience for a moment, let us test our common-sense pulse, or ground ourselves in a broader empiricism⁴⁰ – which is just to say rely on the subjective experience of life and living that we all possess. Contemplate first, if you will, the human child exploring the natural world with abandon. Is there anything in that child's subjective experience that disposes her or him to discern any separation between "mind" and body? In all probability our child wouldn't be contemplating such matters at all: their

³⁹ The notion that humans will never be able to know everything, even allowing for the eventual progress of philosophy and science, can be traced through characters with whom we are already familiar – particularly Plato (428-348 BC), Aristotle (384-322), Saint Thomas Aquinas (1225-1274) and John Locke (1632-1704). Today's philosophers may draw upon any of several more newly mooted principles including "Bremermann's Limit" which refers to the maximum processing speed of any self-contained material system and is equal to 2×10^{47} bits per second per gram. Bremermann's Limit is named after the German-American mathematician Hans Joachim Bremermann (1926-1996) and is derived from both the energy-mass conservation principle ($E=mc^2$) identified by the German-born but nationality-itinerant physicist Albert Einstein and the Uncertainty Principle (e.g., that both the position and velocity of a particle cannot be known with utter precision simultaneously) espoused by the German physicist Werner Heisenberg (1901-1976). Unlike the scientist, the ardent dualist (naturally) would neither subject their "minds", nor correspond what they may "know", to the limiting parameters of any material system(s).

⁴⁰ Hardly heretical as the roots of the English word "empirical" are in the Ancient Greek ("ἐμπειρικός" in modern Greek) translating to Latin as "experientia", meaning "experience". A "broader empiricism" here just means a broader experience; i.e., not limited to sensory experience alone. Folks can and do testify to and agree upon the meaning of common types of experience as well as to the slide rule or yardstick. Without such shared understandings human relationships would be dry if not impossible.

experience is simply a subjective enjoyment. If prompted by an adult to say whether "mind" and body are separate in some way, by even the most subtle of questioning, our child might well furnish a glance of disdain, bordering on contempt. Consider next the "typical" teenager. Perhaps now there might be some recognition by our subject of mental "angst", but would your burgeoning adolescent agree in no confused way that body and "mind" components of that subjective experience are discriminable? ("It is my mind's eye, even my soul⁴¹, that sees and experiences dismay at my acne, but it is kinaesthetically a conjoined experience".) Finally, do most adult humans not just take for granted their moment-by-moment experience of "self in the world" unless it is interrupted by some intense attack of pleasure, pain, panic or existential ennui? Why is the "mind-body problem" of interest to anybody other than those with time to spend acquiring intellectual credit or grinding an ulterior philosophical axe? Taking account of the limited progress that the great brains of history have made resolving it across millennia hitherto, is it not a rather indulgent and vainglorious pursuit? Whether so or not, we are compelled to trace its trajectory historically (at least in outline) if we wish to understand its impact on modern psychology and, thereby, you and me.

Dualism and ultra-dualism

The supposition about "mind" that emanated from Ancient Greece and pervaded the modern world via some of the most famous thinkers in history, including significant figures in the Church, is that "mind" is not material. In Plato's *Phaedo* (who narrates to Echecrates) - a middle dialogue dating circa 380 BC - the logic of the condemned⁴² Socrates regarding the afterlife is evaluated by friends in dialectic (a communication forum of at least some shared understandings in which protagonists are engaged in a tussle to convince each other of the superiority of a particular point of view). Cebes and Simmias find most cogent the "argument from form of life", or the notion that as the "soul" is the "cause" of earthly life it can never have been anything but alive itself, and will continue to be alive after bodily death. There are several possible counterpoints to the argument⁴³; however, it is not so much the point whether Socrates was "right" to be existentially optimistic in his last moments as to appreciate that the earliest and greatest of all philosophers were "dualists". For Plato in Ancient Greece, "forms" were aspatial, atemporal and extra-mental blueprints of perfection: "universals" - such as love, truth and beauty - as well as everyday concepts such as roundness. Forms comprised the very essence (*ousia*) of and preceded material things which, in relation to the forms themselves, were mere "shadows"⁴⁴. Although Plato and his protégé Aristotle differed regarding how, and the extent to which, mental assets were acquired - for both of them the intellect whereby forms are perceived was a metaphysical entity. In maintaining that "mind" and matter are of different "substance" - drawing upon the analogy of chariot and charioteer to make the point - Plato in particular is referred to commonly as an "ultra-dualist".

⁴¹ Whilst "mind" and "soul" are often interchangeable and confounded in arguments about dualism, any useful distinctions would almost certainly rely on theological arguments.

⁴² Socrates was executed by "forced" drinking of Hemlock - a plant poison - at the age of 70 for the offence of impiety against the gods and corrupting the youth of Athens. Contrary to the charge of his accuser Meletus, Socrates considered that his reputation had really been undone because of his challenging the wisdom of those in high office:

I found that those who had the highest reputation were nearly the most deficient, while those who were thought to be inferior were more knowledgeable. (Apology, 26)

⁴³ Interestingly, religious authorities hold that God creates man's soul "immediately".

⁴⁴ Seahorse Sam recommends a moment in the company of the front cover at this juncture.



"Doucement!" (Easy Does It!)
Post-Revolution France, near Place de la Concorde, Paris

Cogito ergo sum

A significant figure in the Scientific Revolution for his support of rationalism⁴⁵, René Descartes (1596-1650) argued that thinking was the only thing about which he could be certain. One could doubt that one had a body, but one could not doubt that one was thinking about whether one had a body and, so, thinking was in some sense more "real". Even to doubt that one thought or existed was evidence of thought or existence for Descartes⁴⁶. He coined the expression *cogito ergo sum* which translates to English as "I think, therefore I exist". Like Plato, Descartes believed that "mind" was strictly non-physical in nature. Its essence was thought, and it was possessed only by humans. The primary theoretical difficulty for "substance dualism" (holding that "mind" is made of different "stuff") is to find a way to account for how "mind" and body interrelate causally (awkwardly assuming that "mind" exerts "will"). For Descartes, the exchange germane occurred at the pineal gland which he termed "the seat of the soul". Although Descartes supposed otherwise, the pineal gland does not exist only in humans; moreover, whereas for Descartes the pineal gland was undivided it is, in fact, hemispherical like the cerebrum. Of course, unlike "mind", the pineal gland is material like the rest of the body and, so, dualists in those days argued that God mediates all causal effects - not just at the pineal gland. Evidently, this is not the type of explanation that many modern thinkers will entertain.

Comte's "religion of humanity"

Positioning itself contiguous with but contrary to dualism lies a set of related philosophical traditions which, as a whole, sidelines any kind of subjectivity in favour of the supposed objectivity derived from constraining acceptable knowledge to that which can be known in some certain manner - particularly via the five senses. Although similar principles of approach can be traced further in history⁴⁷, "positivism" is generally attributed to the first sociologist, the French philosopher Auguste (Isidore Auguste Marie François Xavier) Comte (1798-1857). Comte's ideas thrived in the wake of the national malaise that emerged following the French Revolution (1789-1799). Setting aside all political considerations surrounding that historic event, it isn't entirely unreasonable to speculate that French people then (like humans everywhere in place and time who have preferred or submitted to leadership over autonomy), missed suddenly the monolith of authority that now had been dissolved along with the monarchy (Louis XVI). Alongside John Stuart Mill (1806-1873), with whom Comte developed a personal friendship, Comte argued for a "religion of humanity" - a clear precursor of modern humanism. Comte's notions regarding the evolution of human society through three stages from: (i) the theological (pre-Enlightenment) to (ii) the metaphysical to (iii) the positive (reverberating in both Marxism and psychoanalysis) betray a subspecies of atheism which - incorporated in his entire philosophy, apparently - did not save him from severe mental health problems and a suicidal disposition. It was Comte who coined the term

⁴⁵ Rationalism, being a philosophical rival of empiricism, holds that the intellectual power of reason (or deduction) is a more proper foundation for acquiring knowledge than interpretation of sensory experience. In its radical mode, it is the only way.

⁴⁶ René Descartes' "methodological scepticism", in which he advocated starting with the exclusion of doubtful propositions only re-embracing them if they could be established firmly - such as re-embracing "I doubt that I think" as it constituted evidence of thinking - can be regarded as breathtaking cleverness, or mere contrived and indulgent generation of nonsense for no useful purpose. If we apply the maxim "Keep It Simple" to Descartes, we might also regard his "Theory of Fallacies" in the same light. ("This statement is untrue" as a proposition is just tedious rather than simply marvellous.)

⁴⁷ notably the North African, Muslim, philosophical historian - Ibn Khaldun (1332-1406)

"altruism" to describe what he regarded as a pre-requisite for the evolution of human society to its pinnacle - that individuals should subjugate their personal rights in favour of service to others. We can easily imagine, nevertheless, how affording one's services to others can assume varying shades of psychological and relationship significance depending on the underlying motivating factor(s). Whether services are sold for money rather than given free of charge would seem to have the potential for generating ulterior motives (principally financial gain), and various other conflicts of interest can intrude (particularly diluting the principle that a paid-for service is geared towards the purchaser's best interests as a primary purpose). Even where there are no fees, perhaps the flavour of any service is at least partially coloured by professional ambition(s).

Difficulties of interpretation

An enthusiast for positivism like his fellow countryman before him, Émile Durkheim (1858-1917) transported Comte's ideas into the new discipline that we know today as sociology. Durkheim favoured the evaluation of human communities on a dimension of health, resorting - in a spirit of positivistic objectivity - to statistical data as preferred indicators. Naturally this provokes the question (in the same way that beauty lies in the eye of the beholder), "What constitutes healthy or unhealthy?", but also presents difficulties of interpretation. For instance, Durkheim argued that certain Catholic communities were more healthy than certain Protestant ones based on police suicide statistics entirely; however, how can we know that those Catholics were not less disposed to commit suicide for fear of spiritual damnation rather than because they were happier or otherwise more sane? This is not to say that Catholicism of itself generates fear or discourages confidence in a supreme power external to the "self" for, as an uncontaminated theology, it advocates the very converse. Many of today's Catholics, nevertheless, testify to dreadful and trenchant conditioned fear rooted in their upbringing. We would be foolish to overlook the fact that psychologically sick people are usually disposed to blame others for perceived wrongdoings (not yet having acquired the personal responsibility, autonomy and freedom that accompanies a morally realistic take on the world); nevertheless, it can be feverishly difficult to forget even having forgiven. It's no use a bishop as shepherd of his flock bemoaning, in turn, the moaning of "recovering Catholics" outside the doors who cannot see how much God loves them; perhaps they can't see because they are "spiritually blind", and who is going to help them to become free to enjoy that divine care if there is no admission of responsibility or offer of help within the responsible establishment? Of course, to the extent that wrongs really have been done, the perpetrators have almost always been victims themselves in history. What does it take in matters cultural for one or more persons to stand up, break the mould and be counted in favour of recognising both the existence and actual nature of a chronic problem, expressing the willingness to move towards a holier alternative and future?

Am I OK?

For in the perpetration and preservation of religious dogma, the wielding and biographical injection of acquired fear - how it then feels subjectively, and how it colours a life - can be most insidious on several counts. First, traditionally the established Church has imparted its (interpreted) moral messages as catechistic authority which can be transmogrified into spiritual conscience from adult to child through instruction (as distinct from, say, personal guidance to be discovered as a quiet and gentle, divine or divinely inspired "voice"). Second, its catechism is directed at the spiritual core of each person where all of us can be and are occasionally vulnerable

(Who am I? Am I OK? Am I OK with other people? Do I belong in the world?). Third, the moral messages (usually aren't, however) can be anomalous regards "natural law"⁴⁸. For instance, we can trace the sexual morality of the Church back to its most elevated thinkers such as Saint Thomas Aquinas - for whom the principles underlying proper sex conduct were governed exclusively by its "natural" purpose, i.e., procreation. We can all agree that a probable "natural" consequence of sexual intercourse (between males and females at any rate) is the creation of new human life and, perhaps, most of us would agree that that is a precious or sacred matter (at least ethically in relation to the life thus precipitated). Now, do we take the position that human sexuality (should such a notion be palatable at all) begins and ends there or; rather, is bound intricately with our overarching personalities and, thereby, is a complex arrangement in one person - let alone at the interface between people in relationship? If you take the former view, you may even identify with Aquinas's assertion that only the missionary position was aligned with God's will for sex relations because it was most likely amongst all other possibilities to result in a pregnancy. Aquinas's writings have been interpreted in different ways and means by different people for different purposes; nevertheless, over protracted episodes of history, Aquinas has been reputed to regard masturbation and oral sex, for example, graver moral offences than rape and incest - on the grounds that they are less "natural". You can see how the established Church has come to be more obsessed with sexual mores than with the human capacity for foul violence. If you prefer the latter (complex) view of human sexuality, you may be willing to contemplate in a broader fashion what is sexually "natural" amongst human beings and in human relationships. Even within the Church it is becoming common to distinguish between a homosexual disposition (with a hint of recognition that God created a person that way) and proscribed homosexual acts. Fourth, the language of the Church in relation to transgressions of its precepts has been and still is too vehement. Since the Scientific Revolution, let alone in medieval times and earlier, offences from the sexually minor to the intellectually aspirational have drawn public interdiction, threats of excommunication, execution by foul means and damnation to eternal hell-fire. Is it any wonder that some Catholics consider themselves "recovering"? It's no use denying that the Church has created a reputation for itself as much the harsh and scolding parent as the tolerant, accepting and endlessly forgiving lover. Today some people can be heard to speak of believing in "a loving God". What is that about? Have you ever encountered such a tautology in your life?

No balance in strategic atheism

Amongst those modern positivists for whom religion per se (all of it) constitutes anathema are such notables as (Clinton) Richard Dawkins (1941-). Dawkins rejected the Anglicanism in which he grew up favouring the evolutionary theories of the English naturalist Charles Robert Darwin (1809-1882) as a superior explanation for the natural order (especially over "Creationism" or "Intelligent Design"). In his 1976 publication *The Selfish Gene*, Dawkins revolutionised Darwinism itself by explaining that the gene is the unit of "natural selection" in evolution rather than particular organisms within a given species. In so doing he invited us away from a narrow, subjective and inflated view of our place in biology, helping us to realise that only genes

⁴⁸ "Natural law" refers to the notion that certain moral principles are endowed to the human species intrinsically from nature and, consequently, through "natural justice" should be adopted universally. Whether "natural law" is written upon human hearts by a Godhead is a matter of faith. Historic figures associated with "natural law" include Aristotle, Saint Thomas Aquinas, John Locke and Clive Staples Lewis (1898-1963). Lewis's *Mere Christianity* is a fascinating argument in favour of divine "natural law".

and not individuals survive passing generations⁴⁹. Dawkins is credited with coining the expression "meme" to describe another unit of selection and evolution - in the world of ideas. This metaconcept has been fantastically helpful in facilitating the realisation that human "genius" never springs forth from nothing - or from only itself: it is always the product of both an individual's thoughtfulness and an evolving historical context. We have seen in Chapter 1 how Sir Isaac Newton achieved high standing by possessing this essential modesty. Dawkins is a fervent atheist, campaigning vigorously against religion in the modern world. His arguments are easily accessible online and can be evaluated on their merit by anyone who wishes to do so. As a positivist, Dawkins is an extremist, adopting a deliberate, terminal position on the broad religious spectrum. Dawkins picks his opposites carefully, employing calculated pillory to ridicule fundamentalist factions. The debate is usually with someone who rejects Darwinian accounts of the evolution of species, particularly humans. Dawkins recognises neither the possibility nor utility of a thinking person possessing a realistic take of their place in nature whilst simultaneously seeking religious or spiritual inspiration for living.

The example and "success" of non-human animals

As there has been no clear reconciliation of monism and dualism, where do these divergent viewpoints leave us other than suspended in limbo (if not confused)? Descartes' belief that "mind" was species-specific (to humans) led him to conclude that non-human animals do not experience subjective pain, and vivisection was prosecuted with abandon across Europe until the 18th century (Age of Enlightenment). One may or may not like Descartes' argument that non-human animals do not have the capacity for subjective pain, but it is a fact that non-human animals cannot tell us whether they do - or do not - because they lack the capacity for language. Now, it is not at all clear or resolved even these days whether there is, after all, a constellation of human attributes (language, conscious "mind", subjective pain, the capacity for producing and appreciating music and mathematics, romantic love, the capacity for moral selflessness, the capacity for monstrous cruelty, conscience and desire for justice, an intrinsic and immortal soul) that is simply absent in other species⁵⁰. Our fundamental struggles with such matters, and also the questions posed by such polarities as were presented earlier in this chapter, are relevant because they sit right beneath much personal bewilderment⁵¹. Why are we here? How did it happen? How can we avoid misery and be happy? Is there an afterlife? If so, what is it like? Does its existence or pleasantness depend on how we live now? We have no way of establishing beyond personal sentiment whether such dilemmas are suffered by non-human animals, and whether non-human animals burden themselves with the same, senseless, questioning disposition. Nor do non-humans seem terribly concerned with the "mind-body problem", nor do they record their musings to impress, cajole and win over fellow members of their own species. What is the secret of their "success"?

⁴⁹ In the Preface, we were invited to consider how all contemporary living things have an equal status in nature; nevertheless, all this time after Darwin, many of us regard human beings as the superior apex, or even the end-point, of the evolutionary process.

⁵⁰ The reader who desires to reflect on the entire gamut of species-specific attributes and their implications is encouraged to read either of Euan Macphail's exceptionally thought-provoking and scholarly books: for all-comers, *The Evolution Of Consciousness* (1998, Oxford University Press: Oxford) and, for enthusiastic and diligent readers, *Brain And Intelligence In Vertebrates* (1982, Clarendon Press: Oxford).

⁵¹ Readers wishing to scrutinise two mutually exclusive positions on organised religion could try *The God Delusion* (2006, Bantam Press: London) by Richard Dawkins (in favour of radical atheism) and *A Catholic Replies To Professor Dawkins* (2007, Family Publications: Oxford) by Thomas Crean O.P. (in defence of Roman Catholic faith).



"Careless Cow" apparently, with comparably nonchalant offspring



"Shared Understandings"