Foreword

The Phenomenon of Medawar Stephen Jay Gould

Peter Medawar was a paragon of rationalism. I have never met a man more committed to that combination of logic and common sense that we call science at its best. I have also never met a tougher or more confident man. Reason and fortitude forge an unbeatable combination. One personal story: I attended a scientific meeting with Peter Medawar after a stroke had made half his body virtually unusable. We had to move from the thirdfloor lecture room to the basement restaurant—and the building had no elevator. Peter could only go down stairs backwards, and slowly. Most people in his condition would have meekly waited for everyone else to descend and then painfully made their own way down, no doubt missing half the lunch by late arrival. Peter was the star of the meeting—and he knew it. He went down first, one step at a time, slowly as could be-and everyone followed at his pace. How entirely right and proper, we all agreed.

Peter Medawar was also a paragon of humanism—and this form of compassion took the edge off the occasional harshness of his rationalism. He loved people and their foibles, and he loved to laugh. He was a true philosopher, but he also reminded me of the fellow in Johnson's famous quip about the man who wanted to be a philosopher, but failed because cheerfulness was always breaking through. Another personal story: A year or two after the British forum with the luncheon descent, Peter and I attended another meeting in Minnesota. He had suffered another stroke, and was now confined to a wheelchair. Meanwhile, I had come down with an apparently incurable cancer. Peter was my guru

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and I wanted, more than anything else at the meeting, to ask him as an immunologist by trade, and especially in the light of his own severe problems of health, how and whether, in his opinion, attitude might help in the palliation or remediation of physical illness. So I asked him what traits of character or action might help and he replied simply: 'a sanguine personality'. We both benefited by his judgment, having been endowed for whatever reason with such a view of the world. I recovered, and he lived far longer (and better) with half a body than the vast majority of people could ever hope to survive with all systems functional.

This toughness, combined with compassion and good humor, represents the persona that a commitment to rationalism is supposed to induce, but so rarely does (for personal philosophy does not always overcome personal insecurity). The dispelling of illusions, and acceptance of the world as we actually find it (rather than as we could wish it to be) should be profoundly liberating, though not always joyous. These views underlie the great Spinozistic notion—the deep meaning of true liberty to a philosophic determinist (as the extreme), or simply to one who does not deny the constraints of objective reality-that 'freedom is the recognition of necessity'. With such acceptance, one can be truly sanguine and accept all the outrageous slings and arrows of life's misfortune with both good grace and good humour. A fine idea-although most people don't have the internal strength to embody the consistent philosophy. But Peter Medawar did. Let him speak for himself:

What matters is not to be defeated. I do not regard myself either as a victim or a beneficiary of divine dispensations, and I do not believe—much though I should like to do so—that God watches over the welfare of small children in the way that small children need looking after (that is, as fond parents do, and paediatricians, and good schoolteachers). I do not believe that God does so because there is no reason to believe it. I suppose that's just my trouble: always wanting reasons.

In a world awash in new-age mysticism and old-fashioned, pervasive anti-intellectualism, it may be something of a cliché to point out that salvation requires rationalism now more than ever. Equally obviously, such salutary attitudes need to be embodied in passionate and persuasive individuals, not only in abstractions or collectivities. In this sense, although independently minded intellectuals like myself are not supposed to have gurus, I don't mind admitting that Peter Medawar was, for me, closest to that status of more than mere mentor. I was not blind to his faults (and will mention some later on), but I never met more qualities that I wanted to emulate all rolled up into one person. It goes without saying that Peter Medawar, Nobel laureate for work in immunology, was a pre-eminent biologist. But he was also a great intellectual and committed rationalist, a firm moralist with a redeeming sense of humour, and a wonderful writer especially gifted with the skill to turn a fine phrase. These combined qualities, so rarely conjoined in a single individual, made Medawar our century's greatest spokesman for the power and humanity of science. Just consider a pair of his bon mots: first, an incisive comment on psychobabble in the search for intrinsic meaning in dreams:

those who enjoy slopping around in the amniotic fluid should pause for a moment to entertain (perhaps only unconsciously in the first instance) the idea that the content of dreams may be totally devoid of 'meaning'.

Or this, in a kinder mode, on the difference between art and science:

Wagner would certainly not have spent twenty years on The Ring if he had thought it at all possible for someone else to nip in ahead of him with Götterdämmerung.

I have frequently argued (see my books Bully for Brontosaurus and Eight Little Piggies) that good popular writing in science should be divided into two basic modes: Franciscan (to honour a great poet; and a lover of nature as well as God) for lyrical writing about nature's loveliness, and Galilean (to honour a great rationalist who wrote his books as Italian dialogues for all to read, rather than as Latin treatises for the few) for the joy of intellectual resolution of nature's numerous puzzles. In

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this dichotomy, Peter Medawar is (along with J. B. S. Haldane) the Galilean hero of the twentieth century, just as T. H. Huxley wins the palm for the nineteenth.

Medawar followed the grand lineage of Montaigne and used the essay as his weapon of wit and instruction. So well did he ply this trade that even his book reviews, usually the prime example of an ephemeral genre never worth republishing by definition, became wise essays on enduring themes, with the particular book just used as an entrée to the generality (as several chapters in this collection will show).

Most of Medawar's essays follow the classical pattern of sceptical rationalism in a world of unreason—use of a logical weapon against a series of targets. In the largest sense, Medawar's weapon is science in general—and he does recognize the multifarious nature of valid scientific methodologies. More particularly, Medawar was an uncritical disciple of Sir Karl Popper, and his arguments hew strictly to the Popperian doctrine of falsificationism (statements cannot be proven absolutely true, but can be conclusively falsified; statements not subject to falsification in principle are not scientific). I find Popperianism narrow in some ways, outdated in others, and in this sense cannot agree with all of Medawar's methodology. If Medawar was my guru, then Popper was certainly Medawar's—and perhaps we only learn from this that intellectuals really shouldn't have gurus.

His targets are the enemies of science and reason—particularly those who become cult figures and threaten the rationalist perspective thereby. Medawar had little use for mystics (and their unfalsifiable statements) masquerading as scientists—and his dismissal of Teilhard de Chardin, when the Jesuit palaeontologist became a cult figure in the 1960s for his woolly, mystical (and false) version of evolution, has rightly become one of the great essays of our century, properly given pride of initial place in this volume. With his rapier, Medawar showed that Teilhard's cult classic, *The Phenomenon of Man*, is conventional clap-trap mysticism, pretending to be deep and original because the opacity of Teilhard's writing leads the unsuspecting to regard him as profound:

the greater part of it, I shall show, is nonsense, tricked out with a variety of metaphysical conceits, and its author can be excused of dishonesty only on the grounds that before deceiving others he has taken great pains to deceive himself....it is the style that creates the illusion of content, and ... is a cause as well as merely a symptom of Teilhard's alarming apocalyptic seizures.

Freudian psychoanalysis receives treatment almost as dismissive—with a passion that rings a bit archaically in our decidedly post-Freudian age, though we should remember what a hold (and at what expense) this undocumented theory (also undocumentable in Popper's sense) had upon so many people just a few decades ago. Medawar summarizes his complaint with ample justice:

The property that gave psychoanalysis the character of a mythology is its combination of conceptual barrenness with an enormous facility of explanation.

Medawar was a great humanist himself, but his third major target consisted of pompous professionals in the humanities, who assumed that their enterprise represented the sole height of human achievement and decency, and that science could be dismissed as a form of join-the-dots engineering. (Medawar often tellingly remarked that a scientist would be considered ignorant and properly so, Medawar agreed-if he knew nothing of Shakespeare or Beethoven, but that humanists often took pride in knowing equally little about Darwin or Newton.) Here, I think, Medawar did sometimes go overboard (although I well understand the provocation), and could become both ungenerous and more than mildly élitist in the pass-the-port-this-way style of high-table Oxbridge (a trait that can never endear a patrician Englishman to a Yank like me). I do regard this passage about humanists who liked Teilhard as doing more harm than good for the cause that both Medawar and I share:

How have people come to be taken in by *The Phenomenon of Man*? We must not underestimate the size of the market for works of this kind, for philosophy-fiction. Just as compulsory primary education created a market catered for by cheap dailies and weeklies, so the spread of secondary and latterly of tertiary education has created a large population of people,

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often with well-developed literary and scholarly tastes, who have been educated far beyond their capacity to undertake analytical thought.

Medawar's power of prose consisted largely in his remarkable ability to combine toughness, beauty and clarity (all with a thorough lacing of wit). Any of his essays will do, but let me illustrate this winning conjunction with some statements from a short, and otherwise minor, piece on Florey's role in the discovery of penicillin. This passage for toughness and brevity of wit:

The mice were watched all night (but of course). All four mice unprotected by penicillin had died by 3:30 a.m. Heatley recorded the details and cycled home in the black-out. Poor mice? Yes of course poor mice, but poor human beings too, don't forget.

And this for passionate involvement, and quality of prose:

Macfarlane's account of the animal experiments and the first clinical trial is simple and straightforward, and all the more exciting for being so. It makes my heart pound still although I know the outcome, for the thrill of reading about these great occasions does not diminish...

And finally, for a gem of clear explanation (and for a difficult concept):

The widespread use of penicillin—sometimes injudiciously often—had led to the evolution in many hospitals of strains of bacteria resistant to its action: once a mutant impervious to penicillin has arisen, natural selection soon brings it about that the mutant becomes the prevailing type in the population. It is not that penicillin has lost any virtue, but rather that bacteria have acquired a vice.

People sometimes make the mistake of seeing essays like these—most in the debunking mode of exploding myths of unreason—as negative exercises, however useful. They may then make the further error of assuming that anything negative must be constricting in scope and fundamentally small-minded by definition. No misconception could be deeper. Walt Whitman, America's greatest nineteenth-century poet, urged us to 'make much of negatives'. Debunking can be purely subtractive (and still fun if done with wit and a rapier), but such is never Medawar's way, nor the manner of any great thinker in this venerable tradition. One does not debunk in order to demolish alone, but

rather because an existing edifice seems harmful (or at least seriously in the way of a grand view). One debunks, in other words, in the interest of an alternative view of life. We need the uncompromising humanistic rationalism of Peter Medawar, now more than ever. I shall let Peter Medawar speak for himself in closing, in a fine passage about the narcissistic, and ultimately anti-humanistic, content of modern psychobabble masquerading as philosophy:

There is a particular selfishness about modern philosophic speculation (using 'philosophy' here again in its homely or domestic sense). The philosophic universe has contracted into a neighborhood, a suburbia of personal relationships. It is as if the classical formula of self-interest, 'I'm all right, Jack' was seeking a new context in our private, inner world. We can, obviously, do better than this.

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