Creating a Better World: Towards the University of Wisdom
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INTRODUCTION

We urgently need to bring about a revolution in universities so that problems of living are put at the heart of the academic enterprise, and a basic aim becomes to help humanity make progress towards as good a world as feasible.

From the past we have inherited a kind of academic inquiry that seeks to help promote human welfare by, in the first instance, acquiring knowledge and technological know-how. First, knowledge is to be acquired; then it can be applied to help solve social problems. Inquiry of this type is still dominant in universities today. But, judged from the all-important standpoint of promoting human welfare, this kind of inquiry – which I shall call *knowledge-inquiry* – is grossly and damagingly irrational. Three of the four most elementary rules of rational problem-solving are violated in a wholesale, structural way. This long-standing, massive, institutionalised irrationality in our universities, widely overlooked, is in part responsible for the development of our current global problems, and our current inability to tackle these problems intelligently, effectively and humanely.

Modern science and technological research have, of course, produced immense benefits. They have made the modern world possible. But science and technological know-how make possible modern industry and agriculture, modern hygiene and medicine, which in turn lead to population growth, destruction of natural habitats and rapid extinction of species, pollution of earth, sea and air, the lethal character of modern war and terrorism, vast differences in wealth and power around the globe – and, above all, global warming. In a perfectly respectable sense of 'cause', modern science and technology are, indeed, the *cause* of these things.[1]

Some blame science for our problems, but this profoundly misses the point. Where we have gone wrong is to pursue scientific and technological research *dissociated from a more fundamental concern with problems of living*. We urgently need to bring about a revolution in science, and in academic inquiry more generally, so that the basic aim becomes to seek and promote wisdom – wisdom being the capacity to realize what is of value in life, for oneself and others, thus including knowledge and technological know-how, but much else besides. This revolution would affect every branch and aspect of academia, and how it is related to the rest of the social world. [2]

In what follows, I distinguish two kinds of inquiry, which I shall call *knowledge-inquiry* and *wisdom-inquiry*. At the core of knowledge-inquiry there is a philosophy of science which I shall call *standard empiricism*; the corresponding philosophy of science at the core of wisdom-inquiry being *aim-oriented empiricism*. Standard

empiricism and knowledge-inquiry are what we have inherited from the past, and what we still have, by and large, today. Aim-oriented empiricism and wisdom-inquiry are what emerge when knowledge-inquiry is modified just sufficiently to ensure elementary rules of rational problem-solving and aim-pursuing are implemented, granted that the basic aim is to help promote human welfare, help people realize what is of value in life.

There are two arguments. The first appeals to *problem-solving rationality*, the second to *aim-pursuing rationality*. These establish that knowledge-inquiry is indeed damagingly irrational – three of the four most elementary rules of rational problem-solving are violated – wisdom-inquiry being what emerges when knowledge-inquiry is modified just sufficiently to cure it of its grave rationality defects.

FIRST ARGUMENT: PROBLEM-SOLVING RATIONALITY

Knowledge-inquiry demands that a sharp split be made between the social or humanitarian aims of inquiry and the *intellectual* aim. This latter is to acquire knowledge of truth, nothing being presupposed about the truth. Only those considerations may enter into the intellectual domain of inquiry relevant to the determination of truth – claims to knowledge, results of observation and experiment, arguments designed to establish truth or falsity. Feelings and desires, values, ideals, political and religious views, expressions of hopes and fears, cries of pain, articulation of problems of living: all these must be ruthlessly excluded from the intellectual domain of inquiry as having no relevance to the pursuit of knowledge – although of course inquiry can seek to develop factual knowledge about these things, within psychology, sociology or anthropology. Within natural science, an even more severe censorship system operates: an idea, in order to enter into the intellectual domain of science, must be an empirically testable claim to factual knowledge.

For a much more detailed exposition of knowledge-inquiry see my (1984 or 2007, chapter 2). For evidence that knowledge-inquiry prevails in academia, see my (1984 or 2007, chapter 6). I do not claim that everything in academia accords with the edicts of knowledge-inquiry. My claim is, rather, that this is the only candidate for rational inquiry in the public arena; it is the dominant view, exercising an all-pervasive influence over academe. Work that does not conform to its edicts has to struggle to survive. But this may be about to change, as we shall briefly see below.

This is the conception of inquiry which, I claim, violates reason in a wholesale, structural and damaging manner.

What do I mean by ‘reason’? As I use the term here, rationality appeals to the idea that there are general methods, rules or strategies which, if put into practice, give us our best chance, other things being equal, of solving our problems, realizing our aims. Rationality is an aid to success, but does not guarantee success, and does not

determine what needs to be done. (For further details see my 1984 or 2007, chapters 4 and 5).

Four elementary rules of reason, alluded to above, are:

(1) Articulate and seek to improve the articulation of the basic problem(s) to be solved.
(2) Propose and critically assess alternative possible solutions.
(3) When necessary, break up the basic problem to be solved into a number of *specialized* problems – preliminary, simpler, analogous, subordinate problems – (to be tackled in accordance with rules (1) and (2)), in an attempt to work gradually toward a solution to the basic problem to be solved.
(4) Inter-connect attempts to solve the basic problem and specialized problems, so that basic problem-solving may guide, and be guided by, specialized problem-solving.

Two preliminary points now need to be made.

First, granted that academic inquiry has, as its fundamental aim, to help promote human welfare by intellectual and educational means,[3] then the *problems* that inquiry fundamentally ought to try to help solve are problems of living, problems of action. From the standpoint of achieving what is of value in life, it is what we *do*, or refrain from doing, that ultimately matters. Even where new knowledge and technological know-how are relevant to the achievement of what is of value – as they are in medicine or agriculture, for example – it is always what this new knowledge or technological know-how enables us to *do* that matters. All the global problems indicated above require, for their resolution, not merely new knowledge, but rather new policies, new institutions, new ways of living. Scientific knowledge, and associated technological know-how have, if anything, as we have seen, contributed to the creation of these problems in the first place.

Second, in order to achieve what is of value in life more successfully than we do at present, we need to discover how to resolve conflicts and problems of living in, progressively, less violent, more *cooperatively rational* ways than we do at present.

Granted this, and granted that the above four rules of reason are put into practice then, at the most fundamental level, academic inquiry needs to:

(1) Articulate, and seek to improve the articulation of, personal, social and global problems of living that need to be solved if the quality of human life is to be enhanced (including those indicated above);

(2) Propose and critically assess alternative possible solutions – alternative possible *actions, policies, political programmes, legislative proposals, ideologies, philosophies of life*.

In addition, of course, academic inquiry must:

(3) Break up the basic problems of living into subordinate, specialized problems – in particular, specialized problems of knowledge and technology.
(4) Inter-connect basic and specialized problem-solving.

Academic inquiry as it mostly exists at present puts (3) into practice to splendid effect. The intricate maze of specialized disciplines devoted to improving knowledge and technological know-how that go to make up current academic inquiry is the result. But, disastrously, what we have at present, academic inquiry devoted primarily to improving knowledge, fails to put (1), (2) and (4) into practice. In pursuing knowledge, academic inquiry may articulate problems of knowledge, and propose and critically assess possible solutions, possible claims to knowledge – factual theses, observational and experimental results, theories. But, as we have seen, problems of *knowledge* are not (in general) problems of *living*; and solutions to problems of *knowledge* are not (in general) solutions to problems of *living*. In so far as academia does at present put (1) and (2) into practice, in departments of social science and policy studies, it does so only at the periphery, and not as its central, fundamental intellectual task.

In short, academic inquiry devoted primarily to the pursuit of knowledge, when construed as having the basic humanitarian aim of helping to enhance the quality of human life by intellectual means, fails to put the two most elementary rules of reason into practice (rules (1) and (2)). Academic inquiry fails to do (at a fundamental level) what it most needs to do, namely (1) articulate problems of living, and (2) propose and critically assess possible solutions. And, as a result of failing to put (1) and (2) into practice, knowledge-inquiry fails to put (4) into practice as well. As I have remarked, *three* of the four most elementary rules of rational problem-solving are violated. (For a much more detailed exposition of this argument see my 1984 or 2007.)

This gross structural irrationality of contemporary academic inquiry has profoundly damaging consequences for humanity. In giving intellectual priority to problems of knowledge, academia fails to do what it most needs to do: articulate our problems of living, individual, social and global, and imaginatively develop and critically assess possible solutions – possible *actions*, policies, political programmes, institutional innovations, philosophies of life – designed, if adopted, to help us realize what is of value in life, make progress towards a better world. Again, in devoting itself to acquiring knowledge in a way that is unrelated to sustained concern about what

humanity's most urgent problems are, as a result of failing to put (1) and (2) into practice, and thus failing to put (4) into practice as well, the danger is that scientific and technological research will respond to the interests of the powerful and the wealthy, rather than to the interests of the poor, of those most in need. Scientists, officially seeking knowledge of truth *per se*, have no official grounds for objecting if those who fund research – governments and industry – decide that the truth to be sought will reflect their interests, rather than the interests of the world's poor. And priorities of scientific research, globally, do indeed reflect the interests of the first world, rather than those of the third world. In this respect, funds devoted to military research, in the USA, UK and some other wealthy countries, are especially disturbing: see Langley (2005) and Smith (2003).

Knowledge and technology successfully pursued in a way that is not rationally subordinated to the tackling of more fundamental problems of living, through the failure to put (1), (2) and (4) into practice, is bound to lead to the kind of global problems discussed above, problems that arise as a result of newly acquired powers to act being divorced from the ability to act *wisely*. The creation of our current global problems, and our inability to respond adequately to these problems, has much to do, in other words, with the long-standing, rarely noticed, structural *irrationality* of our institutions and traditions of learning. Knowledge-inquiry, because of its irrationality, is designed to *intensify*, not help *solve*, our current global problems.

WISDOM-INQUIRY: PROBLEM-SOLVING VERSION

At once the question arises: What would a kind of inquiry be like that *is* devoted, in a genuinely rational way, to promoting human welfare by intellectual means? The answer is *wisdom-inquiry*.

As a first step at characterizing wisdom-inquiry, we may take knowledge-inquiry (at its best) and modify it just sufficiently to ensure that all four elementary rules of rational problem-solving, indicated above, are built into its intellectual and institutional structure: see Figure 1.

The primary change that needs to be made is to ensure that academic inquiry implements rules (1) and (2). It becomes the fundamental task of social inquiry and the humanities (1) to articulate, and seek to improve the articulation of, our problems of living, and (2) to propose and critically assess possible solutions, from the standpoint of their practicality and desirability. In particular, social inquiry has the task of discovering how conflicts may be resolved in less violent, more cooperatively rational ways. It also has the task of promoting such tackling of problems of living in the social world beyond academe. Social inquiry is, thus, not primarily social *science*, nor, primarily, concerned to acquire knowledge of the social world; its primary task is to promote more cooperatively rational tackling of problems of living

in the social world. Pursued in this way, social inquiry is intellectually more fundamental than the natural and technological sciences, which tackle subordinate

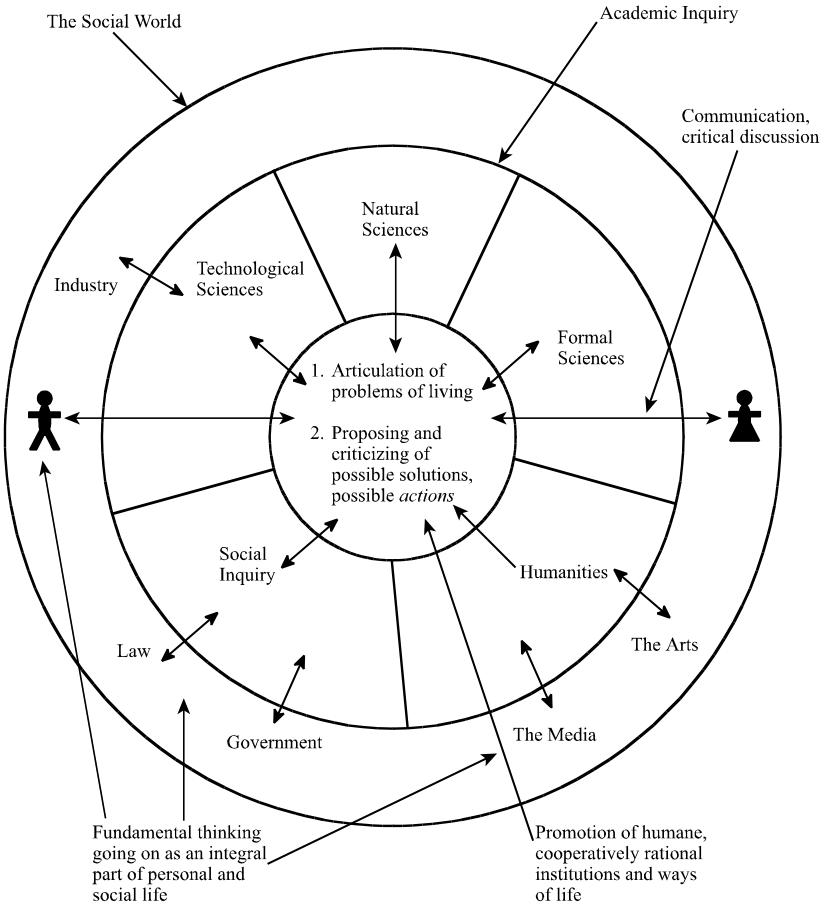

Figure 1: Wisdom-Inquiry Implementing Problem-Solving Rationality

problems of knowledge, understanding and technology, in accordance with rule (3). In Figure 1, implementation of rule (3) is represented by the specialized problem-solving of the natural, technological and formal sciences, and more specialized aspects of social inquiry and the humanities. Rule (4) is represented by the two-way arrows linking fundamental and specialized problem-solving, each influencing the other.

One can go further. According to this view, the thinking that we engage in as we live, in seeking to realize what is of value to us, is intellectually more fundamental than the whole of academic inquiry (the latter having, as its basic purpose, to help cooperatively rational thinking and problem-solving in life to flourish). Academic

thought emerges as a kind of specialization of personal and social thinking in life, the result of implementing rule (3). This means there needs to be a two-way interplay of ideas, arguments and experiences between the social world and academia, in accordance with rule (4). This is represented, in figure 1, by the two-way arrows linking academic inquiry and the social world.

The natural and technological sciences need to recognize three domains of discussion: evidence, theory, and aims. Discussion of aims seeks to identify that highly problematic region of overlap between that which is discoverable, and that which it is of value to discover. Discussion of what it is of value to discover interacts with social inquiry, in accordance with rule (4).

SECOND ARGUMENT: AIM-ORIENTED RATIONALITY

So much for my first argument in support of wisdom-inquiry. I come now to my second argument, which appeals to, and modifies, the Enlightenment programme of learning from scientific progress how to achieve social progress towards an enlightened world.

In order to implement this programme properly**,** it is essential to get the following three steps right.

1. The progress-achieving methods of science need to be correctly identified.
2. These methods need to be correctly generalized so that they become fruitfully applicable to any human endeavour, whatever the aims may be, and not just applicable to the endeavour of improving knowledge.
3. The correctly generalized progress-achieving methods then need to be exploited correctly in the great human endeavour of trying to make social progress towards an enlightened, wise, civilized world.

Unfortunately, the *philosophes* of the 18th century Enlightenment got all three points wrong. And as a result these blunders, undetected and uncorrected, are built into the intellectual-institutional structure of academia as it exists today.

First, the *philosophes* failed to capture correctly the progress-achieving methods of natural science. From D'Alembert in the 18th century to Popper in the 20th (Popper, 1959, 1963), the widely held view, amongst both scientists and philosophers, has been (and continues to be) that science proceeds by assessing theories impartially in the light of evidence, *no permanent assumption being accepted by science about the universe independently of evidence*. Preference may be given to simple, unified or explanatory theories, but not in such a way that nature herself is, in effect, assumed to be simple, unified or comprehensible. This orthodox view, which I call *standard empiricism* is, however, untenable. If taken literally, it would instantly bring science to a standstill. For, given any accepted theory of physics, T, Newtonian theory say,

or quantum theory, endlessly many empirically more successful rivals can be concocted which agree with T about observed phenomena but disagree arbitrarily about some unobserved phenomena. Physics would be drowned in an ocean of such empirically more successful rival theories.

In practice, these rivals are excluded because they are disastrously disunified. *Two* considerations govern acceptance of theories in physics: empirical success and unity. In demanding unity, we demand of a fundamental physical theory that it ascribes *the same* dynamical laws to the phenomena to which the theory applies in addition to empirical success. (For details of this account of theoretical unity see my 1998, chapter. 4; 2004, appendix, section 2; 2007, chapter 14, section 2; or 2010, chapter 5.) But in persistently accepting unified theories, to the extent of rejecting disunified rivals that are just as, or even more, empirically successful, physics makes a big persistent assumption about the universe. The universe is such that all disunified theories are false. It has some kind of unified dynamic structure. It is physically comprehensible in the sense that explanations for phenomena exist to be discovered. (For a fuller exposition of this argument see my 1984, chapter 9, or 2007, chapters 9 and 14; and especially 1998, and 2004, chapters 1 and 2, and appendix.)

But this untestable (and thus metaphysical) assumption that the universe is physically comprehensible is profoundly problematic. Science is obliged to assume, but does not know, that the universe is comprehensible. Much less does it know that the universe is comprehensible in this or that way. A glance at the history of physics reveals that ideas have changed dramatically over time. In the 17th century there was the idea that the universe consists of corpuscles, minute billiard balls, which interact only by contact. This gave way to the idea that the universe consists of point-particles surrounded by rigid, spherically symmetrical fields of force, which in turn gave way to the idea that there is one unified self-interacting field, varying smoothly throughout space and time. Nowadays we have the idea that everything is made up of minute quantum strings embedded in ten or eleven dimensions of space-time. Some kind of assumption along these lines must be made but, given the historical record, and given that any such assumption concerns the ultimate nature of the universe, that of which we are most ignorant, it is only reasonable to conclude that it is almost bound to be false.

The way to overcome this fundamental dilemma inherent in the scientific enterprise is to construe physics as making a hierarchy of metaphysical assumptions concerning the comprehensibility and knowability of the universe, these assumptions asserting less and less as one goes up the hierarchy, and thus becoming more and more likely to be true, and more nearly such that their truth is required for science, or the pursuit of knowledge, to be possible at all: see figure 2. In this way a framework of relatively insubstantial, unproblematic, fixed assumptions and associated methods is created within which much more substantial and problematic assumptions and

associated methods can be changed, and indeed improved, as scientific knowledge improves. Put another way, a framework of relatively unspecific, unproblematic, fixed *aims* and methods is created within which much more specific and problematic aims and methods evolve as scientific knowledge evolves. (A basic aim of science is to discover in what precise way the universe is comprehensible, this aim evolving as assumptions about comprehensibility evolve.) There is positive feedback between improving knowledge, and improving aims-and-methods, improving knowledge-about-how-to-improve-knowledge. This is the nub of scientific rationality, the methodological key to the unprecedented success of science.[4] Science adapts its nature to what it discovers about the nature of the universe (see Maxwell, 1974; 1976; 1984 or 2007; 1998; 2004; 2010, chapter 5).

This hierarchical conception of physics, which I call *aim-oriented empiricism*, can readily be generalized to take into account problematic assumptions associated with

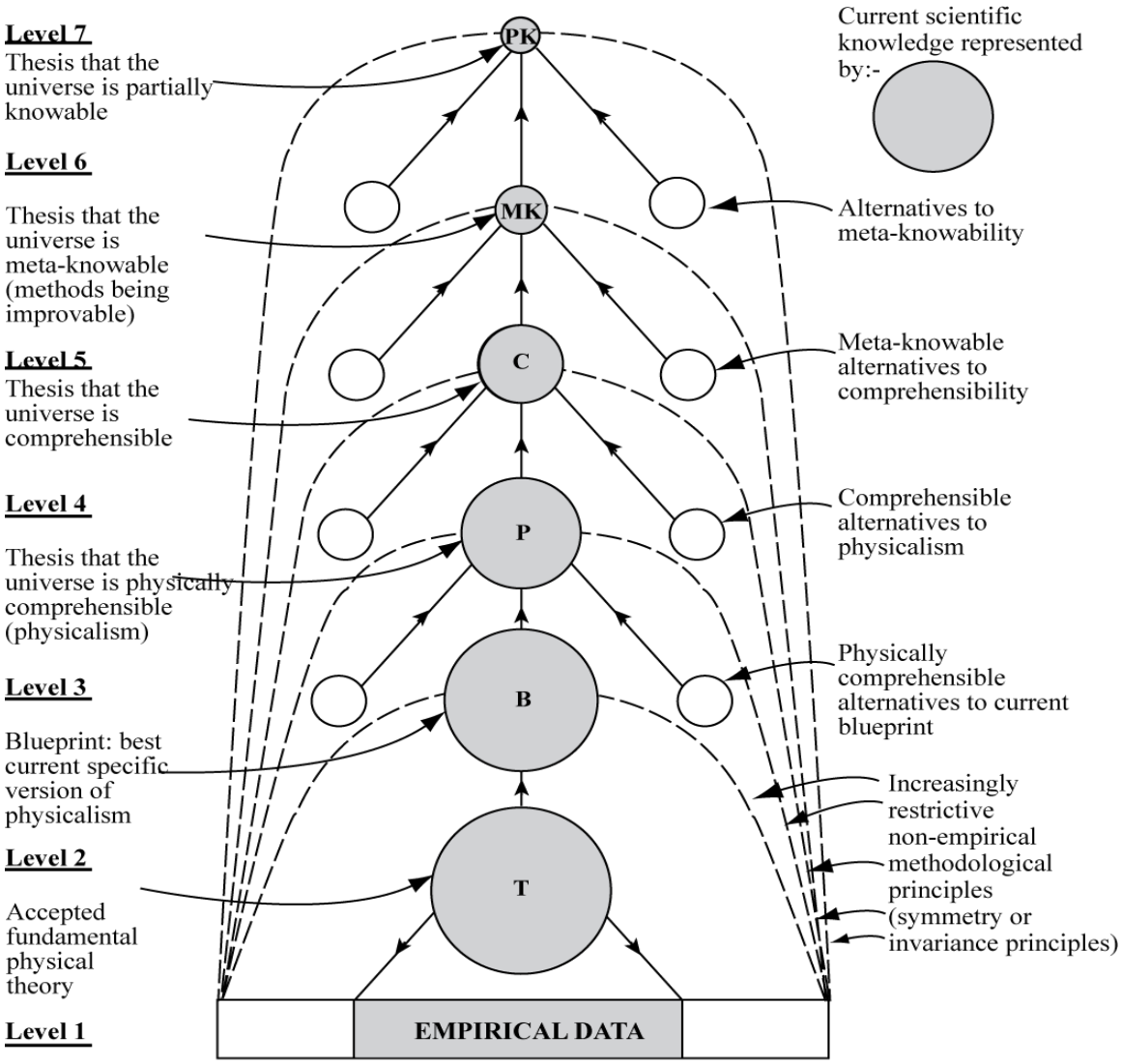

Figure 2: Hierarchical Conception of Science of Aim-Oriented Empiricism

the aims of science having to with *values*, and the *social uses* or *applications* of science. It can be generalized so as to apply to the difference branches of natural science. Different sciences have different specific aims, and so different specific methods although, throughout natural science there is the common meta-methodology of aim-oriented empiricism (Maxwell, 2004, pp. 41-7).

So much for the first blunder of the traditional Enlightenment, and how to put it right.

Second, having failed to identify the methods of science correctly, the *philosophes* naturally failed to generalize these methods properly. They failed to appreciate that the idea of representing the problematic aims (and associated methods) of science in the form of a hierarchy can be generalized and applied fruitfully to other worthwhile enterprises besides science. Many other enterprises have problematic aims – problematic because aims conflict, and because what we seek may be unrealizable, undesirable, or *both*. Such enterprises, with problematic aims, would benefit from employing a hierarchical methodology, generalized from that of science, thus making it possible to improve aims and methods as the enterprise proceeds. There is the hope that, as a result of exploiting in life methods generalized from those employed with such success in science, some of the astonishing success of science might be exported into other worthwhile human endeavours, with problematic aims quite different from those of science.

Third, and most disastrously of all, the *philosophes* failed completely to try to apply such generalized, hierarchical progress-achieving methods to the immense, and profoundly problematic enterprise of making social progress towards an enlightened,

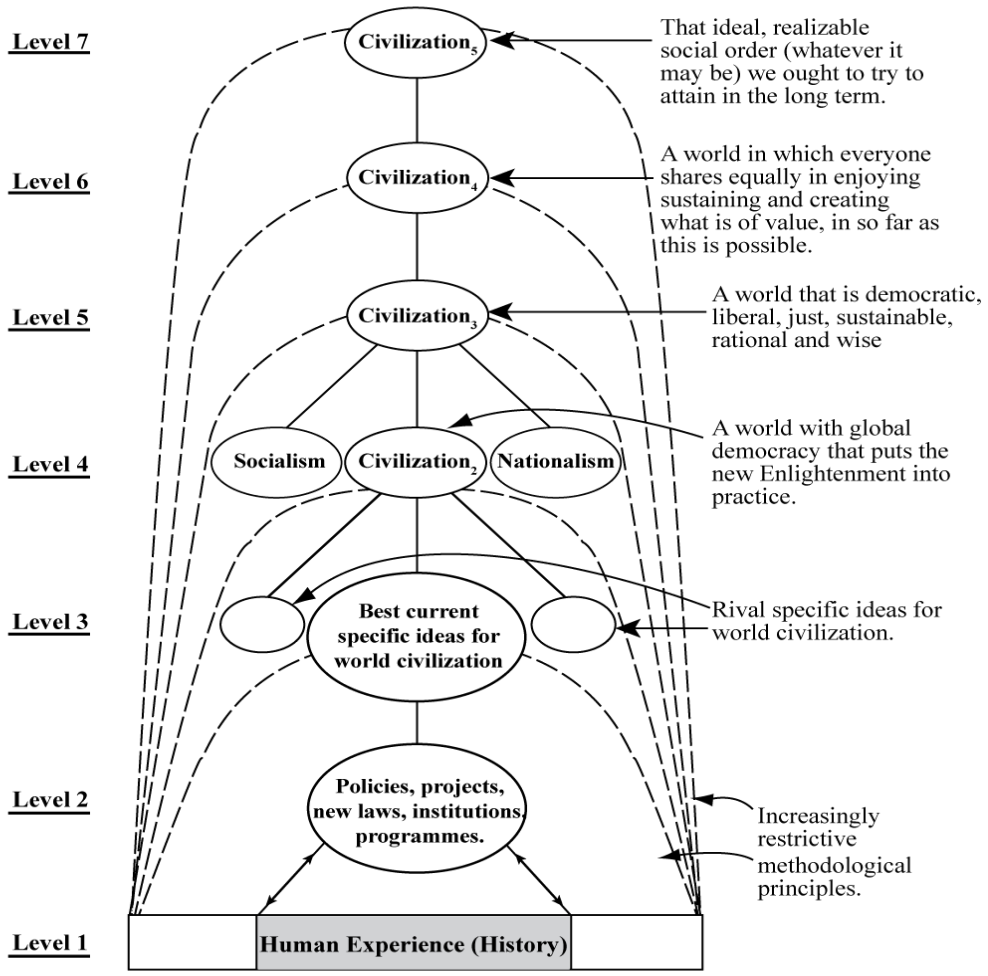

Figure 3: Hierarchical Social Methodology Generalized from Science

wise world. The aim of such an enterprise is notoriously problematic. For all sorts of reasons, what constitutes a good world, an enlightened, wise or civilized world, attainable and genuinely desirable, must be inherently and permanently problematic.[5] Here, above all, it is essential to employ the generalized version of the hierarchical, progress-achieving methods of science, designed specifically to facilitate progress when basic aims are problematic: see Figure 3. It is just this that the *philosophes* failed to do. Instead of applying the hierarchical methodology to *social life*, the *philosophes* sought to apply a seriously defective conception of scientific method to *social science*, to the task of making progress towards, not a *better world*, but to better *knowledge* of social phenomena. And this ancient blunder, developed throughout the 19th century by J.S. Mill, Karl Marx and many others, and built into academia in the early 20th century with the creation of the diverse branches of the

social sciences in universities all over the world, is still built into the institutional and intellectual structure of academia today, inherent in the current character of social science (Maxwell, 1984 or 2007, chapters 3, 6 and 7).

WISDOM-INQUIRY: AIM-PURSUING VERSION

Properly implemented, in short, the Enlightenment idea of learning from scientific progress how to achieve social progress towards an enlightened world would involve developing social inquiry, not primarily as social *science*, but rather as social *methodology*, or social *philosophy*. A basic task would be to get into personal and social life, and into other institutions besides that of science – into government, industry, agriculture, commerce, the media, law, education, international relations – hierarchical, progress-achieving methods (designed to improve problematic aims) arrived at by generalizing the methods of science. A basic task for academic inquiry as a whole would be to help humanity learn how to resolve its conflicts and problems of living in more just, cooperatively rational ways than at present. This task would be intellectually more fundamental than the scientific task of acquiring knowledge. Social inquiry would be intellectually more fundamental than physics. Academia would be a kind of people's civil service, doing openly for the public what actual civil services are supposed to do in secret for governments. Academia would have just sufficient power (but no more) to retain its independence from government, industry, the press, public opinion, and other centres of power and influence in the social world. It would seek to learn from, educate, and argue with the great social world beyond, but would not dictate. Academic thought would be pursued as a specialized, subordinate part of what is really important and fundamental: the thinking that goes on, individually, socially and institutionally, in the social world, guiding individual, social and institutional actions and life. The fundamental intellectual and humanitarian aim of inquiry would be to help humanity acquire wisdom – wisdom being the capacity to realize (apprehend and create) what is of value in life, for oneself and others, wisdom thus including knowledge and technological know-how but much else besides.

One outcome of getting into social and institutional life the kind of aim-evolving, hierarchical methodology indicated above, generalized from science, is that it becomes possible for us to develop and assess rival philosophies of life as a part of social life, somewhat as theories are developed and assessed within science. Such a hierarchical methodology provides a framework within which competing views about what our aims and methods in life should be – competing religious, political and moral views – may be cooperatively assessed and tested against broadly agreed, unspecific aims (high up in the hierarchy of aims) and the experience of personal and social life. There is the possibility of cooperatively and progressively improving *such philosophies of life* (views about what is of value in life and how it is to be achieved) much as *theories* are cooperatively and progressively improved in science. In science, ideally, theories are critically assessed with respect to each other, with respect to metaphysical ideas

concerning the comprehensibility of the universe, and with respect to *experience* (observational and experimental results). In a somewhat analogous way, diverse philosophies of life may be critically assessed with respect to each other, with respect to relatively uncontroversial, agreed ideas about aims and what is of value, and with respect to *experience* – what we do, achieve, fail to achieve, enjoy and suffer – the aim being to improve philosophies of life (and more specific philosophies of more specific enterprises within life such as government, education or art) so that they offer greater help with the realization of what is of value in life. This hierarchical methodology is especially relevant to the task of resolving conflicts about aims and ideals, as it helps disentangle agreement (high up in the hierarchy) and disagreement (more likely to be low down in the hierarchy).

Wisdom-inquiry, because of its greater rigour, has intellectual standards that are, in important respects, different from those of knowledge-inquiry. Whereas knowledge-inquiry demands that emotions and desires, values, human ideals and aspirations, philosophies of life be excluded from the intellectual domain of inquiry, wisdom-inquiry requires that they be included. In order to discover what is of value in life it is essential that we attend to our feelings and desires. But not everything we desire is desirable, and not everything that feels good is good. Feelings, desires and values need to be subjected to critical scrutiny. And of course feelings, desires and values must not be permitted to influence judgements of factual truth and falsity. Wisdom-inquiry embodies a synthesis of traditional Rationalism and Romanticism. It includes elements from both, and it improves on both. It incorporates Romantic ideals of integrity, having to do with motivational and emotional honesty, honesty about desires and aims; and at the same time it incorporates traditional Rationalist ideals of integrity, having to do with respect for objective fact, knowledge, and valid argument. Traditional Rationalism takes its inspiration from science and method; Romanticism takes its inspiration from art, from imagination, and from passion. Wisdom-inquiry holds art to have a fundamental rational role in inquiry, in revealing what is of value, and unmasking false values; but science, too, is of fundamental importance. What we need, for wisdom, is an interplay of sceptical rationality and emotion, an interplay of mind and heart, so that we may develop ‘mindful hearts and heartfelt minds’ (Maxwell, 1976, p. 5). It is time we healed the great rift in our culture, so graphically depicted by Snow (1964).

All in all, if the Enlightenment revolution had been carried through properly, the three steps indicated above being correctly implemented, the outcome would have been a kind of academic inquiry very different from what we have at present, inquiry devoted primarily to the intellectual aim of acquiring knowledge.

FIRST HINTS OF THE REVOLUTION

During the last 10-20 years, numerous changes have occurred in academia that amount to a shift towards wisdom-inquiry. In what follows I concentrate on universities in the UK.

Perhaps the most significant of these steps is the creation of departments, institutions and research centres concerned with social policy, development, environmental degradation, climate change, poverty, injustice and war, and other matters such as medical ethics and community health: see Iredale (2007) and Macdonald (2009) for developments of this point.

At Cambridge University, one can see the first hints of the institutional structure of wisdom-inquiry being superimposed upon the existing structure of knowledge-inquiry. As I have emphasized, wisdom-inquiry puts the intellectual tackling of problems of living at the heart of academic inquiry, this activity being conducted in such a way that it both influences, and is influenced by, more specialized research. Knowledge-inquiry, by contrast, organizes intellectual activity into the conventional departments of knowledge: physics, chemistry, biology, history and the rest, in turn subdivided, again and again, into increasingly specialized research disciplines. But this knowledge-inquiry structure of ever more specialized research is hopelessly inappropriate when it comes to tackling problems of living. In order to tackle environmental problems, for example, in a rational and effective way, specialized research into a multitude of different fields, from geology, engineering and economics to climate science, biology, architecture and metallurgy, needs to be connected to, and coordinated with, the different aspects of environmental problems. (For the fundamental importance of interconnecting work on broad and specialized problems, see my 1980.) The sheer urgency of environmental problems has, it seems, forced Cambridge University to create the beginnings of wisdom-inquiry organization to deal with the issue. The 'Cambridge Environmental Initiative' (CEI), launched in December 2004, distinguishes eight fields associated with environmental problems: conservation; climate change; energy; society, policy and law; water; waste; built environment; natural hazards; and under these headings, coordinates some 102 research groups working on specialized aspects of environmental issues in some 25 different (knowledge-inquiry) departments: see www.cei.group.cam.ac.uk/, accessed 30 May 2010. The CEI holds seminars, workshops and public lectures to put specialized research workers in diverse fields in touch with one another, and to inform the public.

A similar coordinating, interdisciplinary initiative exists at Oxford University. This is the School of Geography and the Environment, founded in 2005 under another name. It is made up of five research 'clusters', two previously established research centres, the Environmental Change Institute (founded in 1991) and the Transport Studies Institute, and three inter-departmental research programmes, the African Environments Programme the Oxford Centre for Water Research, and the Oxford

branch of the Tyndall Centre. The School has links with other such research centres, for example the UK Climate Impact Programme and the UK Energy Research Centre. At Oxford University there is also the James Martin 21st Century School, founded in 2005 to 'formulate new concepts, policies and technologies that will make the future a better place to be'. It is made up of fifteen Institutes devoted to research that ranges from ageing, armed conflict, cancer therapy and carbon reduction to nanoscience, oceans, science innovation and society, the future of the mind, and the future of humanity. At Oxford there is also the Smith School of Enterprise and the Environment, founded in 2008 to help government and industry tackle the challenges of the 21st century, especially those associated with climate change.

Similar developments have taken place recently at my own university, University College London. Not only are there over 141 research institutes and centres at UCL, some only recently founded, many interdisciplinary in character, devoted to such themes as ageing, cancer, cities, culture, public policy, the environment, global health, governance, migration, and security. In addition, very recently, partly influenced by my own work, the attempt has been made to organize research at UCL around a few broad themes that include: global health, sustainable cities, intercultural interactions, and human wellbeing. This is being done so that UCL may all the better contribute to solving the immense global problems that confront humanity.

On the UCL website, the rationale for the global challenges initiative is spelled out in a way which echoes the case for wisdom-inquiry:

> The world is in crisis. Billions of us suffer from illness and disease, despite applicable preventions and cures. Life in our cities is under threat from dysfunctionality and climate change. The prospect of global peace and cooperation remains under assault from tensions between our nations, faiths and cultures. Our quality of life – actual and perceived – diminishes despite technological advances. These are global problems, and we must resolve them if future generations are to be provided with the opportunity to flourish (www.ucl.ac.uk/grand-challenges/, accessed 29 May 2010).

These developments, echoed in many other UK universities, can be regarded as first steps towards implementing wisdom-inquiry. For further indications that the revolution may be underway see my (2009).

CONCLUSION

Research in universities has been devoted, primarily, to acquiring knowledge and technological know-how. But knowledge and technological know-how increase our power to act which, without wisdom, can lead to as much harm as benefit. Current global crises, and especially the most serious, global warming, have arisen in this way. We urgently need to bring about a revolution in our universities so that they

come to seek and promote wisdom – wisdom being understood to be the capacity to realize what is of value in life, thus including knowledge, understanding and technological know-how, but much else besides. Universities need to take up the task of helping humanity learn how to make progress towards as good a world as possible. This revolution – intellectual, institutional and cultural – if it ever comes about, will be comparable in its long-term impact to that of the Renaissance, the scientific revolution, or the Enlightenment. There are signs that this urgently needed revolution may already be underway. If so, it is happening with agonizing slowness, in a dreadfully muddled and piecemeal way. The underlying intellectual reasons for academic change need to be much more widely appreciated, to help give direction, coherence and a rationale to the nascent academic revolution, and to help ensure that the intellectual value and integrity of science and scholarship are strengthened and not subverted.

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NOTES

[1] It may be objected that it is not *science* that is the cause of our global problems but rather the things that we *do*, made possible by science and technology. This is obviously correct. But it is also correct to say that scientific and technological progress *is* the cause. The meaning of 'cause' is ambiguous. By 'the cause' of event E we may mean something like 'the most obvious observable events preceding E that figure in the common sense explanation for the occurrence of E'. In this sense, human actions (made possible by science) are the cause of such things as people being killed in war, destruction of tropical rain forests. On the other hand, by the 'cause' of E we may mean 'that prior change in the environment of E which led to the occurrence of E, and without which E would not have occurred'. If we put our times into the context of human history, then it is entirely correct to say that, in this sense, scientific-and-technological progress is the cause of our distinctive current global disasters: what has changed, what is new, is scientific knowledge, not human nature. (Give a group of chimpanzees rifles and teach them how to use them and in one sense, of course, the cause of the subsequent demise of the group would be the actions of the chimpanzees. But in another obvious sense, the cause would be the sudden availability and use of rifles – the new, lethal technology.) Yet again, from the standpoint of theoretical physics, 'the cause' of E might be interpreted to mean something like 'the physical state of affairs prior to E, throughout a sufficiently large spatial region surrounding the place where E occurs'. In this third sense, the sun continuing to shine is as much a part of the cause of war and pollution as human action or human science and technology.

[2] For a much more detailed account of this revolution, why it is needed and what its implications are, see my (1984 or, better, 2007). See also my (1976; 1980; 1998; 2004 and 2010). For an overview of my work plus critical discussion of it by eleven scholars see McHenry (2009). See also www.nick-maxwell.demon.co.uk.

[3] This assumption may be challenged. Does not academic inquiry seek knowledge for its own sake – it may be asked – whether it helps promote human welfare or not? Elsewhere (Maxwell, 2007, pp. 17-19, 70-5, 205-13) I argue that wisdom-inquiry does better justice than knowledge-inquiry to *both* aspects of inquiry, pure and applied. The basic aim of inquiry, according to wisdom-inquiry, is to help us realize what is of value in life, 'realize' meaning both 'apprehend' and 'make real'. 'Realize' thus accommodates both aspects of inquiry, 'pure' research or 'knowledge pursued for its own sake' on the one hand, and

technological or 'mission-oriented' research on the other – both, ideally, seeking to contribute to what is of value in human life. Wisdom-inquiry, like sight, is there to help us find our way around. And like sight, wisdom-inquiry is of value to us in two ways: for its intrinsic value, and for practical purposes. The first is almost more precious than the second.

[4] Natural science has made such astonishing progress in improving knowledge and understanding of nature because it has put something like the hierarchical methodology of aim-oriented empiricism, indicated here, into scientific practice. Officially, however, scientists continue to hold the standard empiricist view that no untestable metaphysical theses concerning the comprehensibility and knowability of the universe are accepted as a part of scientific knowledge: see Maxwell (2004, pp. 5-6, especially note 5, and 13-14, note 14). As I have argued elsewhere (Maxwell, 1998, pp. 23-33; 2004, chapter 2), science would be even more successful, in a number of ways, if scientists adopted and explicitly implemented the hierarchical methodology indicated here.

[5] There are a number of ways of highlighting the inherently problematic character of the aim of creating civilization. People have very different ideas as to what does constitute civilization. Most views about what constitutes Utopia, an ideally civilized society, have been unrealizable *and* profoundly undesirable. People's interests, values and ideals clash. Even values that, one may hold, ought to be a part of civilization may clash. Thus freedom and equality, even though inter-related, may nevertheless clash. It would be an odd notion of individual freedom which held that freedom was for some, and not for others; and yet if equality is pursued too single-mindedly this will undermine individual freedom, and will even undermine equality, in that a privileged class will be required to enforce equality on the rest, as in the old Soviet Union. A basic aim of legislation for civilization, we may well hold, ought to be increase freedom by restricting it: this brings out the inherently problematic, paradoxical character of the aim of achieving civilization.