Do We Need an Academic Revolution to Create a Wiser World? Chapter 28

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Published in R. Barnett & M. A. Peters, eds., *The Idea of the University: Volume 2: Contemporary Perspectives*, Peter Lang, New York, 2017.

1 Introduction

We urgently need to bring about a revolution in academic inquiry, one that transforms knowledge-inquiry into what may be called *wisdom-inquiry*. This revolution, were it to occur, would help humanity make progress towards as good a world as possible. Wisdom-inquiry gives intellectual priority to articulating problems of living, including global problems, and proposing and critically assessing possible solutions - possible actions, policies, political programmes. It actively seeks to promote public education about what our problems are, and what we need to do about them. It seeks to discover how problematic aims of social, political and economic endeavours may be improved. It includes a virtual government that seeks to discover what the actual government ought to be doing. In these and other ways, wisdom-inquiry would be actively and rationally engaged in helping humanity make progress towards a better world. Academia as it exists at present, dominated by knowledge-inquiry, cannot engage in these vitally necessary activities, or can only do so in a restricted, ineffective fashion. There are strong grounds for holding that wisdom-inquiry would dramatically enhance the capacity of humanity to make progress towards a better, wiser world.

2 Our Grave Global Problems

Our future looks grim. We are confronted by grave global problems which show every sign of intensifying in the future. Millions, possibly billions, of people may suffer and die prematurely from disaster as a result.

There is the problem of rapid population growth. A few years ago it was thought that the world's population might level off at something like ten billion by the middle of the century. Now it is thought there may be as many as eleven billion people by the end of the century.[1]

There is the problem of habitat destruction and increasingly rapid extinction of species. We are living in a period of mass extinctions, only this time the cause is us. There is the problem of vast inequalities of wealth and power around the globe - inequalities that have in some respects increased in the last few decades. There is the problem of the spread of modern armaments, conventional, chemical, biological, nuclear. And on top of that, there is our proclivity for war, our record of war, and the increasingly lethal character of war: something like twelve million people killed in wars in the nineteenth century, around one hundred million in the twentieth century - and we have not been doing too well so far in this century. There is the problem of pollution of earth, sea and air. And most serious of all, there are the impending threats of climate change. As the population goes up way beyond what one imagines the earth can sustain, the capacity of the earth to support and feed people goes down as climate change decreases habitable land as a result of drought and flooding, food production is threatened, people attempt to migrate en masse, and all the conditions likely to provoke war and devastation come to prevail.

3 The Role of Universities

One might well hope that universities would be actively and effectively engaged in helping humanity learn how to tackle these grave global problems that threaten to engulf us in disaster. It turns out, as we shall see, that quite to the contrary, universities are in part responsible for the *genesis* of these problems.

Universities have long been dominated by a view that I shall call *knowledge-inquiry*. According to knowledge-inquiry, the proper way for academia to help promote human welfare is, in the first instance, to acquire knowledge. First, knowledge and technological know-how are to be acquired; then, secondarily, they can be applied to help solve social problems. By no means everything that goes on in universities conforms to the edicts of knowledge-inquiry, and in recent years, as we shall see below, there has been an increasing

body of academic work that breaks with the view. It is, nevertheless, what we have inherited from the past; it still dominates much of academia today, and constitutes the only widely understood conception of rational inquiry.

Knowledge-inquiry is, however, damagingly irrational in a wholesale fashion when judged from the standpoint of helping to promote human welfare. It is this structural irrationality of our universities that is a key factor in the genesis of our current global problems, and in our present incapacity to solve them.

In order to solve our global problems we need, fundamentally, to *act* in new, more cooperatively rational ways. In order to put a stop to population growth, we need to make birth control available to everyone, and we need to create economies, societies and cultures such that inducements to have lots of children disappear. In order to put a stop to war, we need to discover how to resolve, or cope with, our conflicts without resorting to war. In order to end habitat destruction and extinction of species, we need to change agriculture and development. And in order to put a stop to global warming, we need to change production of electricity, transport, industry and agriculture so that CO_2 emissions go down to zero. In every case, it is what we *do*, or refrain from doing, that counts. Insofar as knowledge and technology are relevant, is it what these enable us to do that solves our problems.

Thus, a kind of academic inquiry rationally devoted to helping humanity tackle global problems would give absolute intellectual priority to the twin tasks of (1) articulating the problems of living that need to be solved, and (2) proposing and critically assessing possible and actual *actions* from the standpoint of their capacity to resolve global problems. Academia would have, as its basic task, to engage in and promote cooperatively rational tackling of conflicts and problems of living. The pursuit of knowledge and technological know-how would emerge out of and feed back into the central and fundamental intellectual task of promoting increasingly cooperatively rational tackling of problems of living in

politics, industry, commerce, finance, agriculture, the media, the law, education, international relations and other areas of personal, social, institutional and global life.

But universities that put knowledge-inquiry into practice cannot do this. Knowledge-inquiry demands that only those considerations relevant to the acquisition of knowledge can enter the intellectual domain of inquiry: evidence, factual claims to knowledge, theory, logic. Proposed solutions to problems of living, including global problems - political actions, policies, political and economic programmes, ways of living, philosophies of life - have no place within knowledge-inquiry because they do not constitute even potential contributions to knowledge. Vital intellectual activities associated with solving problems of living are either excluded from academia altogether, or are pushed to the periphery and marginalized.[2]

Knowledge-inquiry does not just fail to do what most needs to be done to help humanity learn how to solve global problems. Even worse, perhaps, the astonishing intellectual success of scientific and technological research pursued within the framework of knowledge-inquiry has been a key factor in the genesis of our global problems in the first place. Science and technology may even be said to be the *cause* of our global problems - in one perfectly legitimate sense of "cause".[3]

Modern science and technology have of course been of great benefit to humanity. They have made the modern world possible. But, in making possible modern medicine and hygiene, modern industry and agriculture, modern armaments, they have also made possible population growth, habitat destruction and extinction of species, the lethal character of modern war, and climate change. But science and technology are not themselves to blame. Rather, what is to blame is science and technology *pursued in a way which is dissociated from a more fundamental concern with our problems of living and what to do about them.* What is to blame, in other words, is science and technology pursued within the framework of knowledge-inquiry. If, during the past two or three centuries, academia had given priority to

helping humanity learn how to tackle problems of living in increasingly cooperatively rational ways, we might have learned how to deal with incipient global problems long ago, before they became too serious. It is the astonishing intellectual success of modern scientific and technological research *pursued within the framework of knowledge-inquiry* that is the key factor in the genesis of our global problems - and the key factor in our current incapacity to solve them.

All this ought to have been an obvious outcome, long ago. Scientific knowledge and technological know-how vastly increase our power to act - for some of us, at least. In the absence of wisdom, this enhanced power to act, bequeathed to us by science, can be expected to have all sorts of beneficial consequences - as indeed it has. But it ought also to be expected that it will have all sorts of harmful consequences as well, either unintended and unforeseen, as in environmental damage (initially), or intentionally, in war and terrorism.

As long as we did not have modern science, lack of wisdom did not matter too much. We lacked the power to do too much damage to ourselves and the planet. Now that we have modern science, wisdom has become, not a private luxury, but a public necessity.

As a matter of supreme urgency, we need to bring about an intellectual-institutional revolution in our universities so that they become rationally organized and devoted to helping us create a wiser world.

4 From Knowledge to Wisdom

For nearly forty years now I have argued, in a steady stream of books, articles and lectures, that we urgently need to transform universities around the world so that come to seek and promote wisdom, and do not just acquire knowledge, as they do, by and large, at present.[4] Since this argument is readily available, in great detail, and in summary, I will here now only briefly indicate how the argument goes - already sketched in the previous section. I will then spell out 23 implications the argument has for changes that need to be made to universities

and academic inquiry. I conclude by considering a number of developments in universities in the last few years which can be regarded as steps towards the kind of inquiry we really need.

I distinguish two kinds of inquiry which I call "knowledge-inquiry" (indicated above) and "wisdom-inquiry". Both kinds of inquiry take helping to promote human welfare - helping people realize what is of value in life - to be the fundamental (social or humanitarian) aim of inquiry. Knowledge-inquiry holds that the proper way to do this is for academia in the first instance to pursue the intellectual aim of knowledge. First, knowledge is to be acquired; then it can be applied to help solve social problems. This is the conception and kind of inquiry we have inherited from the past. Even though not everything that goes on in universities conforms precisely to its edicts, it nevertheless still dominates academia today. But it is, I argue, profoundly and damagingly irrational. Wisdom-inquiry is what emerges when knowledge-inquiry is modified just sufficiently to remove its rationality defects. According to wisdom-inquiry, the intellectual and social (or humanitarian) aims of academia are one and the same: to seek and promote wisdom - wisdom being the active endeavour and capacity to realize what is of value in life, for oneself and others, wisdom thus including knowledge, technological know-how and understanding, but much else besides.

The notion of rationality that we require for this argument appeals to the idea that there is some rather ill-defined set of rules, methods or strategies which, if put into practice, whatever we may be doing, give us our best chance, other things being equal, of solving our problems, realizing our desirable aims. The rules of reason don't guarantee success, and don't tell us precisely what to do - they tell us, rather, what to attempt. They are meta-methods: they presuppose that we can already implement many methods in successfully performing many actions, solving many problems, realizing many aims, and they tell us how best to marshal these successful actions in order to solve new problems, realize hitherto unrealized aims.

I have two arguments. The first appeals to a problem-solving conception of rationality; the second employs and develops an aim pursuing conception.

Here is the first argument.

Four elementary, wholly uncontroversial rules of reason are the following:-

(1) Articulate, and try to improve the articulation of, the problem to be solved.

(2) Propose and critically assess possible solutions.[5]

(3) If the problem to be solved is especially difficult, break it up into easier-to-solve, preliminary, specialized, subordinate problems, in an attempt to work gradually towards the solution to the basic problem to be solved.

(4) But in this case ensure that basic and specialized problem-solving interact with one another, so that each influences the other.[6]

Any problem-solving endeavour which persistently violates just one of these rules is severely irrational, and will suffer as a result. Knowledge-inquiry is so seriously irrational that it violates, not just one, but *three* of these rules.

Knowledge-inquiry puts rule (3) into practice - at least as far as problems of knowledge are concerned. And indeed, a striking feature of academia today is that specialization is rampant. Specialized disciplines divide again, again and again into ever more specialized sub-sub-disciplines. But knowledge-inquiry violates rules (1), (2) and (4). Granted that the basic aim is to help promote human welfare then the basic problems that academia, dominated by knowledge-inquiry, needs to try to help solve are problems of living. Implementing the first two rules thus involves (1) articulating, and improving the articulation of, problems of living, and (2) proposing and critically assessing possible solutions - possible and actual actions, policies, political programmes, etc. But, given knowledge-inquiry, these activities are

excluded from the intellectual domain of academia on the grounds that they do not contribute to knowledge (and might even subvert knowledge). Instead of occupying centre stage, they are banished altogether or, at best, marginalized. Once rules (1) and (2) are violated, rule (4) is violated as well, since rule (4) requires rules (1) and (2) to be implemented.

The gross, structural irrationality of knowledge-inquiry - so extreme that it amounts to *three* of the four most elementary rules of reason one can conceive of being permanently violated - is no mere formal matter. Failure to put rules (1), (2) and (4) into practice means that universities fail to do what they most need to do to help humanity learn how to tackle our current grave global problems. Furthermore, it is the extraordinarily successful solving of specialized problems of knowledge dissociated from a more fundamental concern for problems of living - because of the failure to put rules (1), (2) and (4) into academic practice - which has led modern scientific and technological research to be the key factor in the genesis of our global problems in the first place. It is hardly too much to say that our failure to learn how to solve global problems is due to the gross irrationality of academic inquiry, encapsulated in its failure to implement the elementary rules of reason (1), (2) and (4).

Wisdom-inquiry (first version) arises as a result of knowledge-inquiry being modified just sufficiently to ensure that all four rules of reason are built into the intellectual-institutional structure of academic inquiry and universities. The social sciences and humanities need to change quite fundamentally so that they give intellectual priority to (1) articulating problems of living, and (2) proposing and critically assessing possible solutions. Social science is not, fundamentally, *science*, or the pursuit of *knowledge*. It has, rather, the task of promoting increasingly cooperatively rational tackling of problems of living in the real world. The relationship between social inquiry and natural science needs to change. The former is

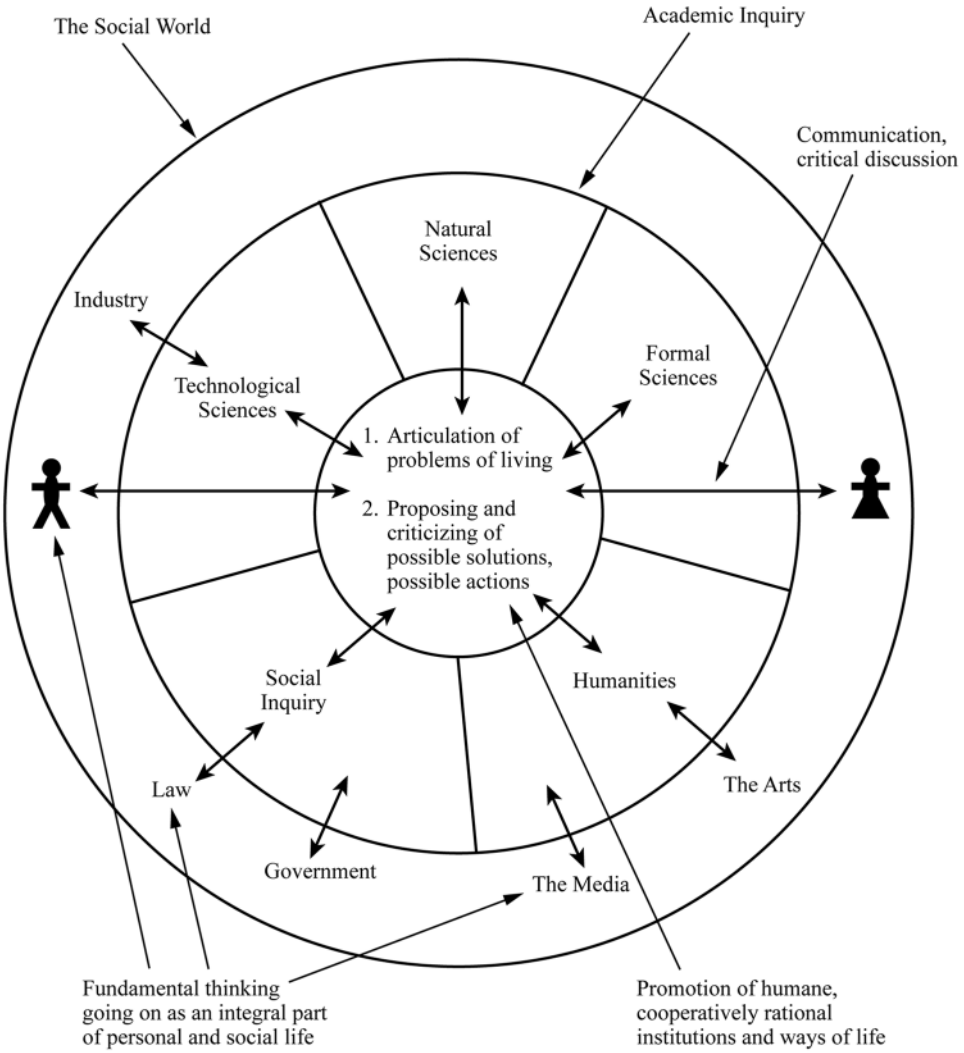

Diagram 1: Problem-Solving Version of Wisdom-Inquiry

intellectually more fundamental than the latter. The whole relationship between academic inquiry and society needs to change. A basic task of academia is not to *study* society, but to encourage and promote cooperatively rational tackling of problems of living as an integral part of personal, social, institutional and global life. Wisdom-inquiry academia needs to do openly for the public what civil services are supposed to do in secret for governments: see diagram 1.

So much for the summary of the first argument. The second argument builds on and develops the first one.

It may be asked: if it is right that academia violates three of the four most elementary rules of reason conceivable, how and when did this state of affairs arise? It goes back to the 18th century Enlightenment. The *philosophes* of the French Enlightenment, Voltaire, Diderot and the rest, had the magnificent idea that it might be possible to learn from scientific progress how to achieve social progress towards an enlightened world. They did what they could to put this idea into practice in their lives.[7] But in developing the idea intellectually, they made a series of blunders, and it is these blunders that we are suffering from today.

In order to develop the Enlightenment idea, three steps need to be got right.

(1) The progress-achieving methods of natural science must be correctly characterized.

(2) These methods must be appropriately generalized so that they become potentially fruitfully applicable to any worthwhile, problematic human endeavour, and not just to science.

(3) These generalised, progress-achieving methods must then be got into the fabric of personal and social life, into our other social endeavours besides science, and above all into the endeavour to make progress towards as good a world as possible.

The *philosophes* got all three steps wrong. They thought (1) natural science makes progress by assessing claims to knowledge impartially and exclusively by means of evidence. This *standard empiricist* conception of scientific method did not need much generalization because the *philosophes* thought that step three involved (3) applying scientific method to the task of improving *knowledge* of the social world. Knowledge of the social world first needs to be acquired; then it can be applied to help humanity make progress towards a better world. They set about creating the social sciences: psychology, economics, sociology and the rest.

These were developed throughout the 19th century, often outside universities, and built into academia in the early 20th century. The outcome is what we have today: knowledge-inquiry.

But if the above three steps had been implemented correctly, the outcome would have been very different. Let us take the three steps in turn.

Step (1). It is false that science proceeds by assessing claims to knowledge by means of evidence alone. In physics, a new theory, in order to be accepted, must (i) be sufficiently empirically successful, and (ii) sufficiently *unified*. Endlessly many disunified rival theories can always be concocted to fit the evidence even better than the accepted theory, but these never get considered for a moment. This persistent rejection of empirically more successful, disunified rivals means that physics accepts implicitly a metaphysical (i.e. untestable) thesis about the world, independent of (or even against) the evidence, which asserts at least: the universe is such that no seriously disunified theory is true. There is, in other words, some kind of underlying unity in nature.

This implicit metaphysical presupposition is both influential and problematic. It needs to be made explicit so that it can be critically assessed and, we may hope, improved. In order to facilitate its improvement, we need to represent it in the form of a hierarchy of assumptions, and associated methods, assumptions becoming progressively less and less substantial and so more and more likely to be true, and more nearly such that their truth is required for science to be possible at all, as we go up the hierarchy: see diagram 2. The assumption at the top, at level 7, is: the universe is such that we can acquire some knowledge of our immediate circumstances. We will never want to reject that conjectural assumption, even if we have no reason to hold it to be true. From level 6 to level 2, that thesis is accepted which best accords with the thesis above. The thesis at level 3 is chosen to do the best justice to the most empirically progressive research programme of theoretical physics.

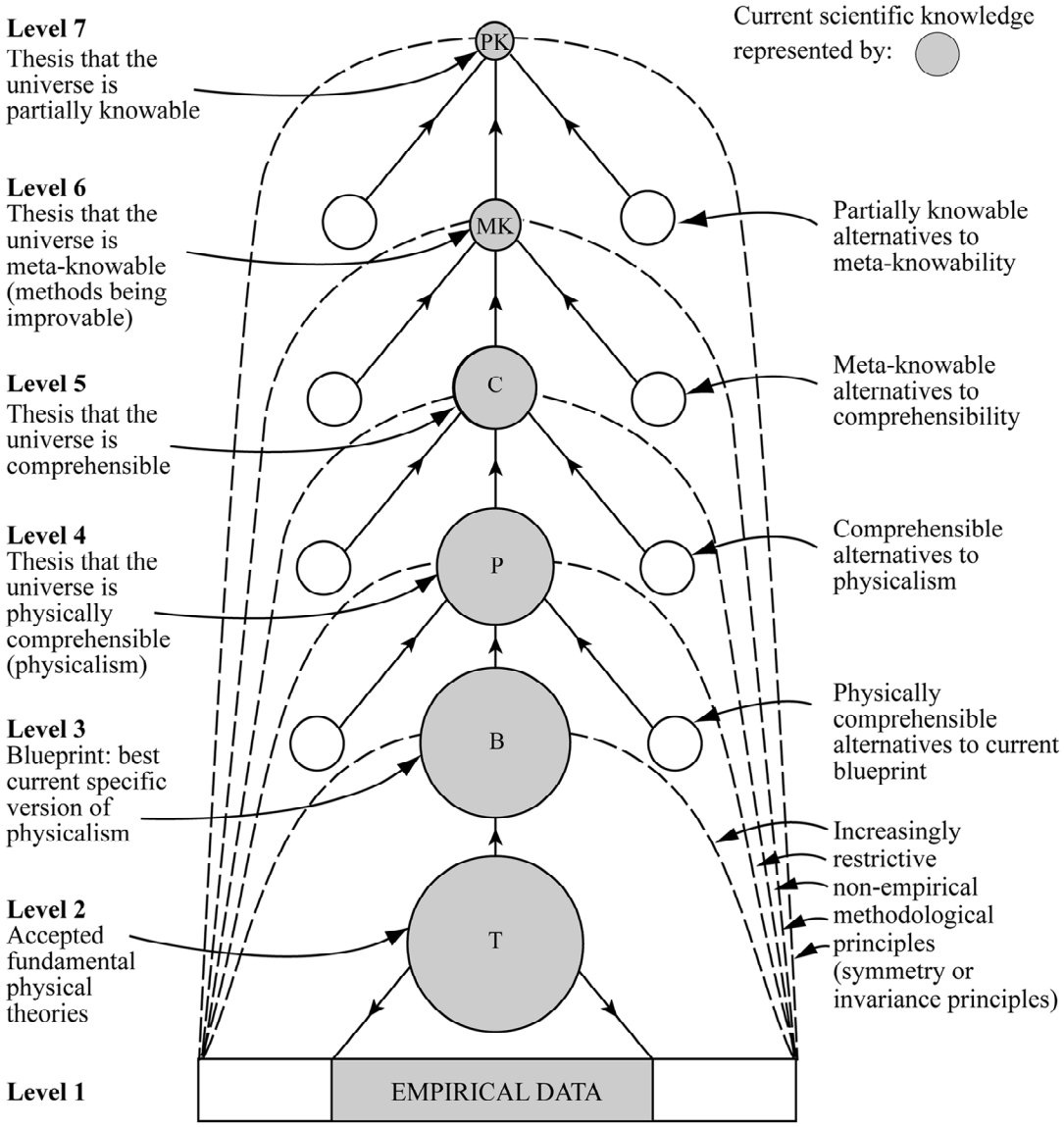

Diagram 2: Aim-Oriented Empiricism

All this may be reformulated in terms of aims. The aim of theoretical physics is not truth per se; rather, it is truth *presupposed to be explanatory* - explanatory truth, in other words. Because this aim is profoundly problematic, we need to represent it in the form of a hierarchy of aims, and associated methods, aims becoming less and less specific and problematic, as we go up the hierarchy.

As physics advances, and knowledge improves, aims and methods, low down in the hierarchy, improve as well. There is something like positive feedback between improving scientific knowledge, and improving aims and methods - improving knowledge about how to improve knowledge. According to this conception of science, which I have called *aim-oriented empiricism*, this positive feedback feature is the nub of scientific rationality. It helps explain the explosive growth in scientific knowledge and understanding. For, even though most scientists pay at least lip service to the orthodox standard empiricist view that evidence alone decides what theories are accepted and rejected, physics in practice, in a somewhat implicit way, has put something like aim-oriented empiricist view into practice. If it had not done, we would still be stuck with Aristotelian science.[8]

Correcting the first step, then, involves rejecting the orthodox standard empiricist conception of science, and adopting and implementing aim-oriented empiricism instead as constituting the correct progress-achieving methods of science.

Step (2) involves generalizing aim-oriented empiricism to form *aim-oriented rationality*, a conception of rationality especially fruitful when aims are problematic or misrepresented, as they often are. Aim-oriented rationality requires us to represent problematic aims in the form of a hierarchy of aims, and associated methods, on analogy with aim-oriented empiricism, so that we create a framework of relatively unproblematic aims and methods, high up in the hierarchy, within which much more problematic and contested aims, and associated methods, may be improved as we seek to resolve conflicts, and act.[9]

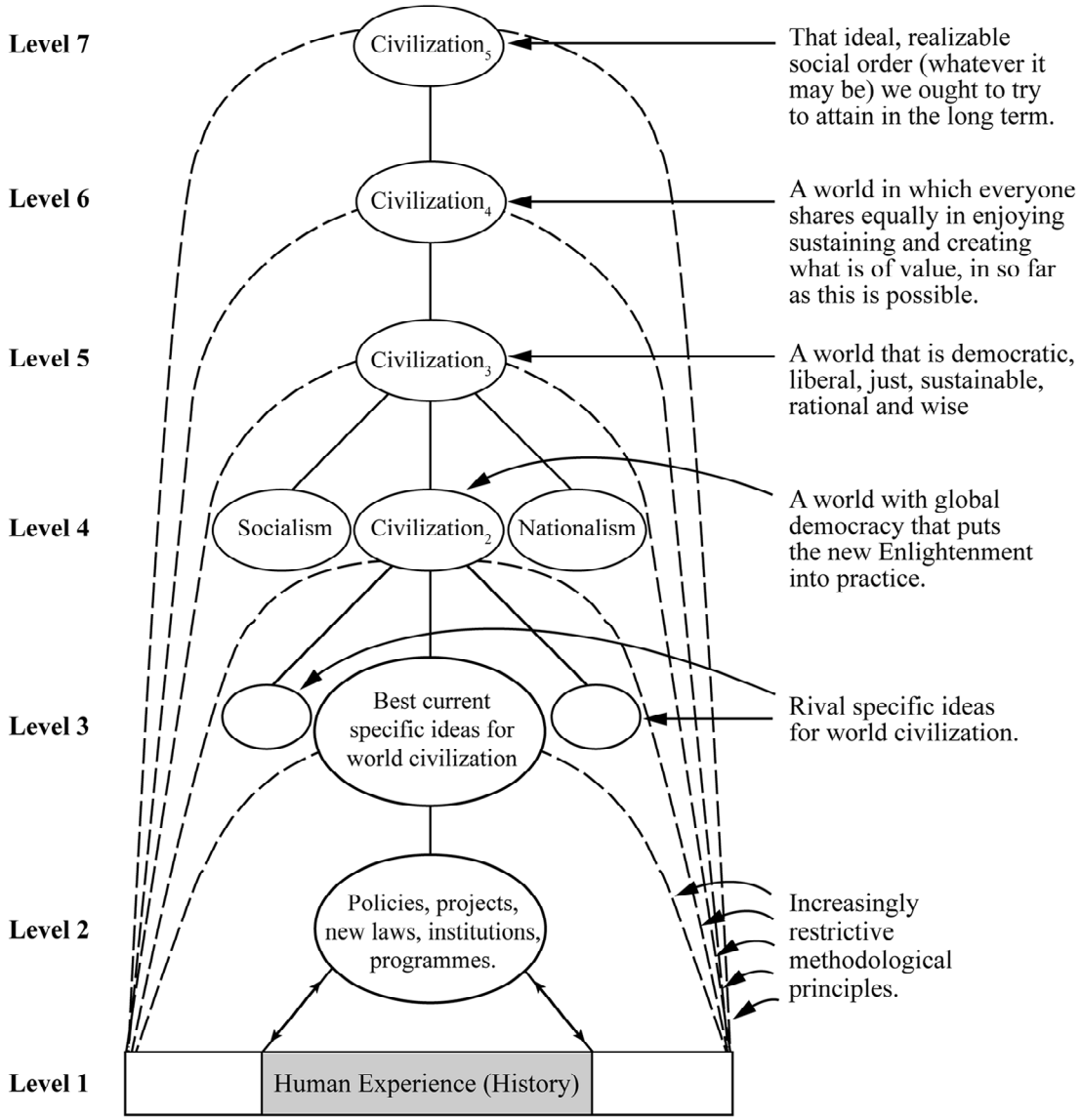

Diagram 3: Aim-Oriented Rationality Applied to the Task of Creating a Wiser World

Step (3) consists in the vital, momentous and long-term task of getting aim-oriented rationality adopted and implemented in personal and social life. Progress-achieving methods, which have proved to be so astonishingly successful in natural science, need to be got into all our other worthwhile social and institutional endeavours with problematic aims: government,

industry, agriculture, the economy, finance, international relations, the media, the law, education, marriage, personal life.

The proper, primary task of social inquiry and the humanities is to work out how this is to be done, in a multitude of social contexts, and help people do it. This means that social inquiry is not primarily social *science*, or devoted to the pursuit of *knowledge* of social phenomena: rather, the various branches of social inquiry and the humanities need to be pursued, and conceived of, as *social methodology* or *social philosophy*. What philosophy of science is to science within the framework of aim-oriented empiricism - that part of the scientific endeavour which seeks to articulate and improve the aims and methods of science - so social inquiry and the humanities are to the social world. Their task is to articulate and help improve problematic aims of diverse social endeavours.

Above all, their task is to help the great social-moral-political endeavour to make progress towards as good a world as possible (in so far as it exists) to put aim-oriented rationality into practice: see diagram 3.

The outcome of correcting the three blunders of the Enlightenment in the ways indicated would be *wisdom-inquiry*, a kind of academic inquiry very different from what we have at present. The basic aim of wisdom-inquiry (as I have already remarked) is to seek and promote, not just knowledge, but rather wisdom - wisdom being the active endeavour and capacity to realize what is of value in life, for oneself and others. "Realize", here, means both "apprehend" or "experience" on the one hand, and "create" or "make real" on the other, wisdom-inquiry doing better justice to both aspects of inquiry - inquiry pursued for its own sake, and inquiry pursued in order to realize other ends.[10]

Wisdom-inquiry is a synthesis of traditional rationalism and romanticism, and a radical improvement over 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 from art, imagination, and 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 acquire heartfelt minds and mindful hearts".[11]

Unfortunately, despite the fact that this argument, very briefly summarized here, has been spelled out in detail in the literature for nearly 40 years at the time of writing, there is still little awareness of the urgent need to transform academia in the way I have indicated. It is not just that social inquiry is still pursued primarily as social *science*. The very idea that we need to develop social *methodology*, with the task of helping humanity get aim-oriented rationality into social life, is still almost entirely unknown. The profound importance of building aim-oriented rationality into the fabric of social life is not appreciated. Even worse, the very concept of aim-oriented rationality is still largely unknown.

Our grave global problems, our threatening future, stare us in the face. Everyone appreciates that we humans, above all, are the species that learns. And yet, mysteriously, it has not yet dawned on humanity - or even on experts in the field - that we urgently need to learn how to tackle our grave global problems more intelligently, effectively and humanely than we have managed to do so far, and for that our institutions of learning need to be well-designed, rationally designed and devoted to the task. It has not dawned on those whose job it is to concern themselves about these matters that our institutions of learning, above all our universities, are an intellectual and rationality disaster when judged from this standpoint, it being vital for the future of humanity that we put right the structural intellectual-institutional defects that at present plague academia, inherited from the blunders of the Enlightenmnent.

5 From Knowledge-Inquiry to Wisdom-Inquiry

Here is a list of 23 intellectual and institutional changes that need to be made to academia if knowledge-inquiry is to become wisdom-inquiry. All but the last three follow from the requirement that knowledge-inquiry be modified so as to implement elementary standards of problem-solving and aim-pursuing rationality.

1. There needs to be a change in the basic intellectual *aim* of inquiry, from the growth of knowledge to the growth of wisdom — wisdom being taken to be the capacity to realize what is of value in life, for oneself and others, and thus including knowledge, understanding and technological know-how (but much else besides).

2. There needs to be a change in the nature of academic *problems*, so that problems of living are included, as well as problems of knowledge – the former being treated as intellectually more fundamental than the latter.

3. There needs to be a change in the nature of academic *ideas*, so that proposals for action are included as well as claims to knowledge – the former, again, being treated as intellectually more fundamental than the latter.

4. There needs to be a change in what constitutes intellectual *progress*, so that progress-in-ideas-relevant-to-achieving-a-more-civilized-world is included as well as progress in knowledge, the former being indeed intellectually fundamental.

5. There needs to be a change in the idea as to where inquiry, at its most fundamental, is located. It is not esoteric theoretical physics, but rather the thinking we engage in as we seek to achieve what is of value in life. Academic thought is a (vital) adjunct to what really matters, personal and social thought active in life.

6. There needs to be a dramatic change in the nature of social inquiry (reflecting points 1 to 5). Economics, politics, sociology, and so on, are not, fundamentally, *sciences*, and do not,

fundamentally, have the task of improving knowledge about social phenomena. Instead, their task is threefold. First, it is to articulate problems of living, and propose and critically assess possible solutions, possible actions or policies, from the standpoint of their capacity, if implemented, to promote wiser ways of living. Second, it is to promote such cooperatively rational tackling of problems of living throughout the social world. And third, at a more basic and long-term level, it is to help build the hierarchical structure of aims and methods of aim-oriented rationality into personal, institutional and global life, thus creating frameworks within which progressive improvement of personal and social life aims-and-methods becomes possible. These three tasks are undertaken in order to promote cooperative tackling of problems of living — but also in order to enhance empathic or "personalistic" understanding between people as something of value in its own right. Acquiring knowledge of social phenomena is a vital but subordinate activity, engaged in to facilitate the above three fundamental pursuits.

7. Natural science needs to change, so that it includes at least three levels of discussion: evidence, theory, and research aims. Discussion of aims needs to bring together scientific, metaphysical and evaluative consideration in an attempt to discover the most desirable and realizable research aims. It needs to influence, and be influenced by, exploration of problems of living undertaken by social inquiry and the humanities, and the public.

8. There needs to be a dramatic change in the relationship between social inquiry and natural science, so that social inquiry becomes intellectually more fundamental from the standpoint of tackling problems of living, promoting wisdom. Social inquiry influences choice of research aims for the natural and technological sciences, and is, of course, in turn influenced by the results of such research. (Social inquiry also, of course, conducts empirical research, in order to improve our understanding of what our problems of living are, and in order to assess policy ideas whenever possible.)

9. The current emphasis on specialized research needs to change so that sustained discussion and tackling of broad, global problems that cut across academic specialities is included, both influencing and being influenced by, specialized research.

10. Academia needs to include sustained imaginative and critical exploration of possible futures, for each country, and for humanity as a whole, policy and research implications being discussed as well.

11. The way in which academic inquiry as a whole is related to the rest of the human world needs to change dramatically. Instead of being intellectually dissociated from the rest of society, academic inquiry needs to be communicating with, learning from, teaching and arguing with the rest of society — in such a way as to promote cooperative rationality and social wisdom. Academia needs to have just sufficient power to retain its independence from the pressures of government, industry, the military, and public opinion, but no more. Academia becomes a kind of civil service for the public, doing openly and independently what actual civil services are supposed to do in secret for governments.

12. There needs to be a change in the role that political and religious ideas, works of art, expressions of feelings, desires and values have within rational inquiry. Instead of being excluded, they need to be explicitly included and critically assessed, as possible indications and revelations of what is of value, and as unmasking of fraudulent values in satire and parody, vital ingredients of wisdom.

13. There need to be changes in education so that, for example, seminars devoted to the cooperative, imaginative and critical discussion of problems of living are at the heart of all education from five-year-olds onwards. Politics, which cannot be taught by knowledge-inquiry, becomes central to wisdom-inquiry, political creeds and actions being subjected to imaginative and critical scrutiny.

14. There need to be changes in the aims, priorities and character of pure science and scholarship, so that it is the curiosity, the seeing and searching, the knowing and understanding of individual persons that ultimately matters, the more impersonal, esoteric, purely intellectual aspects of science and scholarship being means to this end. Social inquiry needs to give intellectual priority to helping empathic understanding between people to flourish (as indicated in 6 above).

15. There need to be changes in the way mathematics is understood, pursued and taught. Mathematics is not a branch of knowledge at all. Rather, it is concerned to explore problematic *possibilities*, and to develop, systematize and unify problem-solving methods.

16. Literature needs to be put close to the heart of rational inquiry, in that it explores imaginatively our most profound problems of living and aids personalistic understanding in life by enhancing our ability to enter imaginatively into the problems and lives of others.

17 Philosophy needs to change so that it ceases to be just another specialized discipline and becomes instead that aspect of inquiry as a whole that is concerned with our most general and fundamental problems — those problems that cut across all disciplinary boundaries. Philosophy needs to become again what it was for Socrates: the attempt to devote reason to the growth of wisdom in life.

18 Academic contributions need to be written in as simple, lucid, jargon-free a way as possible, so that academic work is as accessible as possible across specialities and to non-academics.

19. There needs to be a change in views about what constitute academic contributions, so that publications which promote (or have the potential to promote) public understanding as to what our problems of livings are and what we need to do about them are included, in addition to contributions addressed primarily to the academic community.

20. Every university needs to create a seminar or symposium devoted to the sustained discussion of fundamental problems that cut across all conventional academic boundaries, global problems of living being included as well as problems of knowledge and understanding.

In addition, the following three institutional innovations ought also to be made to help wisdom-inquiry to flourish:

21. Natural science needs to create committees, in the public eye, and manned by scientists and non-scientists alike, concerned to highlight and discuss failures of the priorities of research to respond to the interests of those whose needs are the greatest – the poor of the earth – as a result of the inevitable tendency of research priorities to reflect the interests of those who pay for science, and the interests of scientists themselves.

22. Every national university system needs to include a national shadow government, seeking to do, virtually, free of the constraints of power, what the actual national government ought to be doing. The hope would be that virtual and actual governments would learn from each other.

23. The world's universities need to include a virtual world government which seeks to do what an actual elected world government ought to do, if it existed. The virtual world government would also have the task of working out how an actual democratically elected world government might be created.

6 Is the Wisdom Revolution Underway?

In Maxwell (1984, ch. 6), I examined six aspects of academia and found that knowledge-inquiry then prevailed. For the second edition, published in 2007, I looked again at these six aspects, and found that changes in academia had taken place which could be interpreted as a

movement towards wisdom-inquiry in some respects. Since then, further changes have occurred, some even influenced by my work. Notable in this respect is the Global Challenges Programme, initiated in 2009 by David Price at my own university, University College London, which speaks of "The Wisdom Agenda" on the UCL website,[12] and seeks to help solve global problems. A number of other universities in the UK have recently initiated similar programmes of research. During the last ten to twenty years, there has been a considerable increase in university departments and institutions devoted to policy, peace, conflict resolution, environmental issues, international development. Scientists and scientific institutions such as the Royal Society, are increasingly concerned to engage with the public about matters of scientific and social relevance. There has been an upsurge in research into wisdom, triggered in part by a book edited by Robert Sternberg, published in 1990.[13] The Wisdom Research Network at the University of Chicago provides a record of the recent massive growth in publications in this field.[14] This research, though a step towards wisdom-inquiry, is nevertheless conducted very much within the framework of knowledge-inquiry. The basic implicit idea is to improve *knowledge* of wisdom, and then apply this knowledge to help promote wisdom in life.[15] These and other related developments are encouraging, but so far amount to piecemeal changes, often made in ignorance of one another.[16] What we urgently need, and what we do not as yet have, is a coherent, high-profile campaign seeking to transform academia wholesale, step by step, freeing it of the lingering embrace of knowledge-inquiry so that wisdom-inquiry may be put fully into intellectual, institutional and educational practice.

7 Conclusion

Our only hope of solving our problems successfully lies in tackling them *democratically*. This in turn requires that a majority of people on earth have a good understanding of what our problems are, and what we need to do about them. Democratically elected governments are

unlikely to be able to do what is required if the people who elect them do not understand what our problems are, and what we need to do to resolve them. This in turn requires that we have in existence institutions of learning rationally devoted to helping humanity come to understand what our problems are, and what needs to be done to solve them. It is just this that we do not have at present. Instead we have institutions of learning devoted to the pursuit of *knowledge*. But it is knowledge and technological know-how, and the power that these engender, in the absence of wisdom, that have made possible the creation of our current global problems.

We urgently need to bring about a revolution in our schools and universities so that they come to seek and promote wisdom by rational means. Almost every branch and aspect of academic inquiry needs to change.

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. The outcome will be traditions and institutions of learning rationally designed to help us realize what is of value in life. There are a few scattered signs that this intellectual revolution, from knowledge to wisdom, is already under way. It will need, however, much wider cooperative support – from scientists, scholars, students, research councils, university administrators, vice chancellors, teachers, the media and the general public – if it is to become anything more than what it is at present, a fragmentary and often impotent movement of protest and opposition, often at odds with itself, exercising little influence on the main body of academic work. I can hardly imagine any more important work for anyone associated with academia than, in teaching, learning and research, to help promote this revolution.

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Notes

[1] See www.theguardian.com/environment/2014/sep/18/world-population-new-study-11bn-2100 , accessed 12 April 2015.

[2] For a more detailed exposition of knowledge-inquiry, its influence and harmful consequences, see Maxwell (1984, or 2nd ed., chs. 2, 3 and 6).

[3] It may be objected that it is not *science* that is the cause of 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 the 21st and 20th century 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 and technological know-how, 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. In short, if

by the cause of an event we mean that prior change which led to that event occurring, and without which the event would not have occurred (the second of the above three senses), then it is the advent of modern science and technology that has *caused* all our current global crises. It is not that people became greedier or more wicked in the 19th and 20th centuries; nor is it that the new economic system of capitalism is responsible, as some historians and economists would have us believe (science plus communism would have done the trick just as well – even better, in fact, as the record of the Soviet Union reveals, in connection with environmental degradation, for example). The crucial factor is the creation and immense success of modern science and technology.

[4] The argument was first expounded in Maxwell (1976). It received a much more detailed exposition in Maxwell (1984), and was further developed in Maxwell (2004; 2014a; 2014b). Summaries of the argument are given in Maxwell (1980; 1992; 2000; 2008; 2009; 2012). See also Iredale (2008) and Macdonald (2009).

[5] "the one method of all *rational discussion* … is that of stating one's problem clearly and examining its various proposed possible solutions *critically*" Popper (1959, p. 16). Popper was too opposed to specialization to emphasize rule (3); he did not see that the evils of over-specialization can be counteracted by implementing rule (4). For a discussion of Popper's opposition to specialization, see Maxwell (forthcoming).

[6] For a more detailed discussion of methods of rational problem-solving see Maxwell (1984, ch. 4).

[7] See Gay (1973).

[8] For a very much more detailed exposition and defence of aim-oriented empiricism see Maxwell (1984, chs. 5 and 9, or 2nd ed., chs. 5, 9, and 14; 1998; 2004; 2005; 2013b). It was first expounded in Maxwell (1974).

[9] I here tread a path parallel to the one trod by Popper, when he generalized his falsificationist conception of scientific method - see Popper (1959, 1963) - to form *critical rationalism*, which Popper then applied to social and political problems, above all in his masterpiece, Popper (1962). Thus Popper declares "inter-subjective *testing* is merely a very important aspect of the more general idea of inter-subjective *criticism*, or in other words, of the idea of mutual rational control by critical discussion" Popper (1959, p. 44, n *1).

[10] For much more detailed expositions of the argument for wisdom-inquiry (or "the philosophy of wisdom" as I have called wisdom-inquiry in the past), see Maxwell (1976; 1980; 1984; 1998; 2004; 2014a; 2014b).

[11] Maxwell (1976, p. 5).

[12] www.ucl.ac.uk/research/wisdom-agenda , accessed 12 April 2015.

[13] Sternberg (1990).

[14] http://wisdomresearch.org/blogs/publications/ , accessed 12 April 2015.

[15] See Maxwell (2013a).

[16] See Maxwell (2014a, chs. 4 and 5).