**Science, Knowledge, Wisdom and the Public Good**

Nicholas Maxwell nicholas.maxwell@ucl.ac.uk
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What kind of science – or, more generally, what kind of academic inquiry – can best contribute to the public good? That is the question I tackle in this essay.

I consider two possible answers to this question, two rival conceptions of inquiry, which I call "knowledge-inquiry" and "wisdom-inquiry".

The basic idea of knowledge-inquiry is simply this. First, knowledge and technological know-how are to be acquired; then, secondarily, they can be applied to help solve social problems. On this view, a sharp split must be maintained between the humanitarian or social aims of inquiry, and the intellectual aim (acquisition of knowledge). The basic method is to permit into the intellectual domain of inquiry – into academic texts, journals, lectures and seminars – only claims to knowledge, and factors relevant to the assessment of such claims: observation, experiment and argument. Everything else must be excluded. In particular, the intellectual activity of articulating problems of living, and proposing and assessing possible solutions, possible *actions*, must be excluded from inquiry: such intellectual activity would involve the advocacy and assessment of such things as human needs, values and aspirations, and political policies, programmes and philosophies. All this must be excluded from the intellectual domain of inquiry, to ensure that the search for genuine, objective knowledge does not degenerate into the production of mere propaganda and ideology.

The core component of this view is a conception of science, which I shall call "standard empiricism". This asserts that in science laws and theories, claims to knowledge, are to be assessed impartially with respect to the evidence, *no permanent assumption being made about the universe independent of evidence (and certainly not in defiance of evidence)*. Standard empiricism imposes an even more severe line of demarcation between science and everything else: in order to enter into the intellectual domain of science, an idea must be *empirically testable*.[1]

Not everything that goes on in academia conforms to knowledge-inquiry. For one thing, anti-rationalist, romantic ideas, and what Isaiah Berlin has called the "Counter-Enlightenment",[2] have been influential in such fields as cultural studies, the history and sociology of science, and so-called "continental philosophy". It may even be that academia, as it exists today, is a kind of confused mixture of what I am calling knowledge-inquiry and wisdom-inquiry (see below). Nevertheless, overwhelmingly, knowledge-inquiry is dominant.[3]

Knowledge-inquiry is, nevertheless, damagingly irrational, in a wholesale, structural way, when judged from the standpoint of promoting the public good.

In order to be rational, inquiry must at least observe the following four absolutely elementary, banal, entirely uncontroversial rules of rational problem solving.

(1) Articulate, and try to improve the articulation of, the problem 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 preliminary, simpler, analogous, subordinate or specialized problems (to be

tackled in accordance with rules 1 and 2), in an attempt to work gradually towards a solution to the basic problem to be solved.

(4) Interconnect attempts to solve basic and specialized problems, so that basic problem solving may guide and be guided by specialized problem solving.[4]

Knowledge-inquiry, as it exists today, puts rule (3) into practice to splendid effect. It is this that creates the multitude of disciplines, sub-disciplines, sub-sub-sub-disciplines, that go to make up modern science, and modern academia more generally.[5] Disastrously, knowledge-inquiry violates, rules (1), (2) and (4).

In order to see this, consider the nature of the *problems* that, fundamentally, we need to solve in order to promote the public good. These are, fundamentally, problems of *living*, problems of *action*, not problems of knowledge or technological know-how. Even when new knowledge or technology is needed, as in medicine or agriculture, it is always what this knowledge or technology enables us to *do* that produces what is of value to us in life. It is always what we *do* (or refrain from doing) that solves our problems of living.

Furthermore, in order to solve our most urgent problems of living, we need, quite fundamentally, to discover how to resolve our conflicts and problems of living in more just, cooperatively rational ways than we do at present. There are of course degrees of cooperativeness, from annihilation of the opposition, at the extreme violent end of the spectrum, via threat of annihilation, threats of a less extreme kind, bargaining, appealing to some procedure to decide the issue such as tossing a coin or voting, to cooperative rationality at the other end of the spectrum, all those concerned seeking to discover that resolution of the conflict that is of most value, does the best justice, to all those concerned. Acting cooperatively is only feasible and desirable up to a certain point, for all sorts of reasons. Nevertheless, in our violent and unjust world, there is room for rather more cooperative tackling of conflicts of a kind that is both feasible and desirable (to put it at its mildest).

Put together the above four rules of reason, and the point that our problems are, fundamentally, problems of *living*, problems of *action*, and we are led to conclude that the intellectually fundamental tasks of a kind of inquiry rationally devoted to promoting the public good must be to:

(1) Articulate, and try to improve the articulation of, our most urgent, fundamental problems of living (individual, social, global).

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

But it is just these two intellectually fundamental tasks which knowledge-inquiry cannot perform, and must exclude from the intellectual domain of inquiry, as we have seen above. Just that which a kind of inquiry devoted to promoting the public good most needs to do, cannot be done. Knowledge-inquiry violates rules (1) and (2) of rational problem solving – the most basic rules of reason conceivable. Rule (3), as we have seen, is put splendidly into effect, but rule (4) is violated as well. Because tackling of problems of living cannot go on within knowledge-inquiry, at a fundamental level, the rule (4) task of inter-connecting fundamental and specialized problem-solving cannot go on either. In short, three of the four most elementary, uncontroversial rules of reason conceivable are violated in a wholesale, structural fashion.

And this gross irrationality, built into the intellectual-institutional structure of academic inquiry, has profoundly damaging social, humanitarian consequences. It means that knowledge is pursued in a way that is dissociated from any more

fundamental intellectual concern to help humanity discover how to resolve its conflicts and social problems in more cooperatively rational ways.

Scientific knowledge and technological know-how have enormously increased our power to *act*. In endless ways, this vast increase in our power to act has been used for the public good – in health, agriculture, transport, communications, and countless other ways. But equally, this enhanced power to act has been used to cause human harm, whether unintentionally, as in environmental damage (at least initially), or intentionally, as in war. It is hardly too much to say that all our current global problems have come about because of science and technology. The appalling destructiveness of modern warfare and terrorism, vast inequalities in wealth and standards of living between first and third worlds, rapid population growth, environmental damage – destruction of tropical rain forests, rapid extinction of species, global warming, pollution of sea, earth and air, depletion of finite natural resources – all exist today because of modern science and technology. Science and technology lead to modern industry and agriculture, to modern medicine and hygiene, and thus in turn to population growth, to modern armaments, conventional, chemical, biological and nuclear, to destruction of natural habitats, extinction of species, pollution, and to immense inequalities of wealth across the globe. The successful pursuit of knowledge and know-how, dissociated from a more fundamental concern to help humanity learn how to resolve its conflicts and problems of living in more just, cooperatively rational ways, is almost bound to lead to such adverse consequences. And priorities of scientific research are unlikely to reflect the priorities of human need. Science without wisdom is a recipe for disaster.[6]

What, then, in broad outline, would academic inquiry be like if it was rationally designed and devoted to helping humanity make progress towards a good world? I now give a sketch of this kind of inquiry, which I shall call "wisdom-inquiry". There is nothing arbitrary about this sketch. It is arrived at by modifying knowledge-inquiry just sufficiently to ensure that the above four rules of reason are all implemented.

At the heart of wisdom-inquiry there is the intellectually fundamental activity of (1) articulating problems of living, and (2) proposing and critically assessing possible solutions - possible increasingly cooperative actions (policies, political programmes, institutional changes, philosophies of life). This intellectually fundamental activity is undertaken by social inquiry: see diagram 1. The basic task of social inquiry is to promote more cooperatively rational resolving of problems of living in the social world: acquisition of knowledge of social phenomena is a subsidiary task. Wisdom-inquiry also (3) tackles a vast mass of more specialized, subordinate problems of knowledge and technological know-how, pursued by the natural, technological and formal sciences, but (4) such specialized problem-solving is interconnected with fundamental problem-solving, so that each may influence the other: see diagram 1. Wisdom-inquiry acts as a kind of people's civil service, doing openly for the public what actual civil services are supposed to do in secret for governments. According to this view, academic inquiry must 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. Wisdom-inquiry learns from, seeks to educate, and argues with the great social world beyond, but does not dictate. Academic thought may itself be regarded 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. It is vital that the relationship between socially active thought and academic thought itself puts rule (4) into practice, each influencing the other.

Granted that academic inquiry as it exists at present really is as grossly and damagingly irrational as I have argued it is, the question arises: How did this come about? The answer lies with the Enlightenment of the 18th century, which sought to develop social inquiry as social *science* rather than social *methodology* or social *philosophy*. The *philosophes* of the Enlightenment had the magnificent idea that it might be possible to learn from scientific progress how to achieve social progress towards an enlightened world. In order to implement this idea properly it is essential to (a) characterize correctly the progress-achieving methods of science, (b) generalize these methods properly and (c) apply them to the task of making social progress towards a good world. This involves, first, recognizing that standard empiricism is untenable: science is impossible unless basic assumptions are made concerning the knowability and comprehensibility of the universe. The fundamental aim of science is deeply problematic; science needs to represent its aims and methods in the form of a hierarchy, aims becoming increasingly unproblematic as one goes up the hierarchy, in this way a framework of fixed aims and methods being created within which more problematic aims and methods can be improved with improving knowledge. This interplay between improving knowledge and improving aims and methods (improving knowledge about how to improve knowledge) is the crux of scientific rationality, and the key to the success of science.[7] It is this conception of scientific method that needs to be generalized and applied to the task of making social progress towards a good, civilized world – a task with a notoriously problematic aim. The outcome would be wisdom-inquiry, with social inquiry pursued as social *methodology* or social *philosophy*.

Unfortunately, the Enlightenment got all three steps, (a), (b) and (c) wrong. The *philosophes* upheld versions of standard empiricism, and sought to develop social inquiry as social *science*. This was developed throughout the 19th century, and built into academia in the 20th century with the creation of departments of social science. The upshot is what we have today, damagingly irrational knowledge-inquiry.

We urgently need to bring about a revolution in the aims and methods of academic inquiry, so that wisdom-inquiry is put into academic practice, and a more intellectually rigorous and humanly desirable kind of inquiry is developed than that which we have at present.[8] The fundamental aim would be to promote wisdom, help humanity create a wiser world. But what, it may be asked, do I mean by "wisdom"? Elsewhere I have defined wisdom like this:

> "[Wisdom is] the desire, the active endeavour, and the capacity to discover and achieve what is desirable and of value in life, both for oneself and for others. Wisdom includes knowledge and understanding but goes beyond them in also including: the desire and active striving for what is of value, the ability to see what is of value, actually and potentially, in the circumstances of life, the ability to experience value, the capacity to use and develop knowledge, technology and understanding as needed for the realization of value. Wisdom, like knowledge, can be conceived of, not only personal terms, but also in institutional or social terms. We can thus interpret [wisdom-inquiry] as asserting: the basic task of rational inquiry is to help us develop wiser ways of living, wiser institutions, customs and social relations, a wiser world." (Maxwell, 1984, p. 66.)

**References**

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**Notes**

[1] This is in essence Karl Popper's famous criterion of demarcation between science and metaphysics: in order to be scientific, a theory must be *falsifiable*. See, for example, Popper (1963, ch. 11).
[2] Berlin (1980, pp. 1-24).
[3] For evidence in support of this claim see Maxwell: (1984, ch. 6); (1998, pp. 38-45); (2002a, pp. 240-1).
[4] For further rules of reason, and further discussion of the nature of rational problem-solving and aim-pursuing see Maxwell (1984, chs. 4 and 5).
[5] In order to get a sense of just how endless is the maze of specialized sub-sub-sub-disciplines in a field such as physics or chemistry, one need only consult a volume of Physics Abstracts.
[6] For a detailed discussion of the harmful humanitarian consequences of the irrationality of knowledge-inquiry see Maxwell (1984, ch. 3).
[7] See Maxwell (1998).
[8] For very much more detailed presentations of the argument see Maxwell: (1976); (1984); (1998); (2002a); and (2002b).