The Urgent Need for Social Wisdom
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Abstract
Two great problems of learning confront humanity: learning about the universe; and learning how to become civilized. The first problem was solved in the 17th century, with the creation of modern science. But the second problem has not yet been solved. That puts us in a situation of great danger. All our current global problems have arisen as a result. We need to learn from our solution to the first problem how to solve the second. This was the basic idea of the 18th century Enlightenment. Unfortunately, the Enlightenment made three blunders that are still built into academia today. Correct these ancient blunders, and we would have what we so urgently need: universities rationally devoted to helping us solve global problems and create a wise world.

Humanity urgently needs to acquire a bit more social wisdom. This claim is likely to provoke two immediate questions:
(1) What is social wisdom? How does it differ from a society in which everyone is wise?
(2) Why does humanity need to acquire it?
I will take these two questions in turn. And, during the course of this chapter, I will tackle further questions, such as: How can humanity acquire a bit more social wisdom? Is it reasonable to think humanity might acquire wisdom when this has been hoped-for as long as recorded history, and such hopes have always been dashed? What is so special about our age that leads one to think we, at last, might acquire wisdom, especially when, just recently, we seem to have entered a phase of quite exceptional stupidity?
The central theme of this chapter is the urgency of our need to acquire a bit more wisdom, and the long over-looked resource that makes it possible: the progress-achieving methods of science. These methods, properly understood, can be generalized and fruitfully employed by all sorts of problematic, worthwhile human endeavours to make valuable progress; in particular, this can be done by the profoundly problematic and potentially profoundly worthwhile social endeavour to make progress towards a wise world. We can learn from scientific progress, I shall argue, how to make progress in social wisdom!
Before I proceed, I must say something about what I take wisdom to be. I am more or less in support of what Karl Popper has to say against taking questions of definition too seriously: see Popper (1962, vol. 2, ch. 11, section 2, pp. 9 - 21). There can be no such thing as *the* definition of wisdom: It all depends on context and purpose: see Maxwell (2013, pp. 301-2). The following characterization is adequate for our present purposes, and strikes me as more useful than many other definitions of wisdom to be found in the literature: see penultimate paragraph of Maxwell (2013, p. 302).
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 help realize what is of value for oneself and others, the capacity to help solve those problems of living that arise in connection with attempts to realize what is of 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 in personal terms, but also in institutional or social terms" (Maxwell, 1984, p. 66). (In order to bring this very broad, multi-faceted conception of wisdom into line with rather more traditional conceptions, one would need to exclude from it capacities, skills or expertise required to realize or create what is of value in specialized or particular contexts - the specific skills or expertise of the artist, doctor, scientist, craftsman or teacher.)

In what follows I shall argue that we need to transform academic inquiry so that its basic aim becomes, not just to acquire knowledge, but rather to seek and promote wisdom construed in the way just indicated. We need an academic revolution. Universities need to start devoting reason to the task of helping us develop wiser ways of living, wiser institutions, customs, social relations, a wiser world. From the past we have inherited the view that academia needs first to acquire knowledge; once acquired, it can then be applied to help promote human welfare. I shall argue that this influential, orthodox, *knowledge-inquiry* view, despite the great benefits it has brought us, is damagingly irrational in a wholesale, structural way. The rationality defects of this knowledge-inquiry view, built into academic institutions, are in part responsible for the genesis of our grave global problems, and our current incapacity to resolve them. We urgently need a new, more rigorous kind of inquiry – *wisdom-inquiry* I shall call it – which gives intellectual priority to the tasks of helping humanity resolve its problems of living, improve its problematic political, social, industrial, economic, institutional aims, so that social progress may be made towards a better world. The scientific pursuit of knowledge, within wisdom-inquiry, would be important but secondary. The natural and technological sciences, the social sciences and the humanities, the relationships between these fields of inquiry, education, the relationship between academia and the social world: all these need to change radically. There can scarcely be any more important task, as far as the long-term interests of humanity are concerned, than to ensure that our institutions of learning are well designed and devoted to helping humanity make progress towards a better, wiser world. At present academia betrays both reason and humanity.

1 What is Social Wisdom?

There is a brilliant short story by Stanisław Lem which, quite incidentally, depicts the difference between what is known to everyone in a society, and what is known to the society itself. The story tells of two communities at war, one made up of people, the other of robots. The first community sends two spies into the second one, disguised as robots. They are unmasked, then thrown into prison to await death. But before that happens, it emerges that every robot is really a person disguised as a robot, too terrified of the punishment of death to reveal their true identity. Here is a society in which every member knows he or she is a person, but the society itself does not know this. Social knowledge - or belief - is that the society is made up of robots. The story is, I am sure, intended to be a metaphor for life lived under the regime of the Soviet Union, where revelations about one's real opinions might indeed land one in trouble. But the story also brilliantly depicts the difference between *social knowledge*, and *knowledge of individuals in society*. And it highlights, too, the difference between *social wisdom* and *wisdom of individuals in society*. In speaking of *social* wisdom we are speaking of the wisdom of institutions, customs, cultures, social endeavours: governments, universities, police and law courts, media, the economy, industry, finance, nations.

The idea of the social – of social wisdom – does not commit us to holding that there really are social entities – institutions, customs, cultures – that exist somehow independently of individual people and their actions, not being reducible to the multitude of actions of individual people. Rather, in speaking of the social we are speaking of features of characteristic interactions between people: their beliefs and knowledge of each other, their

expectations of each other, their capacity to act together in characteristic ways. In Lem's robot community, people interact with one another as if they are robots, and it is that which constitutes the item of social knowledge: "we are a robot society."

It could be argued that the distinction I have drawn between a society of wise individuals and a wise society is pretty specious, because the former would, inevitably, be short-lived. If everyone in an unwise society became genuinely wise overnight, everyone would set to work to transform institutions, customs and culture so that they became wise too. That may be so, but the mere fact that there would be a major job on hand to transform the institutions, customs and culture indicates that the society of wise individuals is *not* the same thing as the wise society. Major questions would arise about how to reform dreadfully unwise prisons, laws, electoral systems, newspapers, educational institutions, financial systems, and so on. Social wisdom is a serious issue in its own right.

2 Review of Some Thoughts on Social Wisdom

Ever since the publication of Sternberg (1990), there has been an almost explosive growth in the social sciences in research into wisdom: see http://wisdomresearch.org/blogs/publications/. (There is, incidentally, in Sternberg (1990), a reference to social wisdom: Deidre Kramer briefly discusses the wisdom of societies on page 308.) Most of this research seems to concern personal wisdom. A few studies are, however, concerned with wisdom in a social context.

Staudinger and Baltes (1996) makes out a strong case for holding that there is a social dimension to personal wisdom. The paper reports on the outcome of a study of 244 individuals responding to some imaginary life problem, such as a good friend reporting the decision to commit suicide. On the one hand, two individuals, known to each other, discussed the problem together; on the other, one individual considered the problem alone but imagined what others would say about it. Staudinger and Baltes conclude that discussion does seem to assist the reaching of wise decisions, even if the discussion is merely imagined.

Grossmann *et al.* (2017) studied the question of whether deliberation aids or undermines cooperation. They come to the conclusion that wise deliberation supports cooperation - a fortunate outcome. Since all cooperation, except for the most elementary, requires discussion and deliberation, it would be unfortunate indeed if deliberation undermines cooperation. Cowan (2017) gives a preliminary report on a study that seeks to discover what qualities leaders need to have to bridge gulfs that separate groups as a result of mutual mistrust. The study seeks to assess the role that three dimensions of practical wisdom play: inclusiveness, foresight, and decisiveness. Hu *et al.* (2016) interviewed 50 individuals aged from 60 to 80, and 50 aged from 20 to 30, all from mainland China, about their views on wisdom. They found that those aspects of wisdom related to cognitive, practical, and social engagement tended to be more universal and intergenerational, whereas those aspects related more to "spirituality" and "mindset" tended to be more culturally specific and sensitive to social change. Cheung (2016) argues that those social workers who employ intuition and practical wisdom successfully in their work tend to be put at a disadvantage by judgements and assessments that give priority to the evidence-based paradigm. Cheung suggests that if a greater role is given to tacit knowing, intuition, and indwelling, the significance of practical wisdom in social work might receive greater recognition.

Failing to find in this recent work research devoted to social wisdom, I have cast my net somewhat wider.

Some social wisdom may have been lost when we moved from living in hunting and gathering tribes of about 250 persons to vast, impersonal societies of thousands, millions, or the 7.5 billion persons of the world today. Colin Turnbull (1961) tells us that, in the small hunting and gathering tribe of Pygmies of central Africa with whom he lived for a time,

crime was almost unknown but, when it did occur, it was dealt with cooperatively, humanely, and effectively. A young man caught stealing was condemned by the tribe to live alone in the forest, which meant almost certain death. Turnbull noticed, however, that the next day the young man quietly reappeared, and all seemed to be forgotten. A kind of social wisdom is possible for a small group of people living together that becomes much more problematic for a large society of mutual strangers.

Karl Popper (1962) made a related point when he stressed that the transition from the closed tribe, with just one way of life and view of the world, to the open society, with its multiplicity of ways of life, values and views, inevitably creates new problems - along with the great benefits. The transition creates doubt, insecurity, alienation, loneliness, loss of easy identification with our fellow human beings – *the strain of civilization* as Popper calls these emotionally difficult aspects of living in the open society (vol. 1, p. 176-7). Those who succumb to the strains of civilization long to return to the closed world of tribal life, and may join dogmatic religious or political sects in an attempt to do so. Even some of the greatest thinkers, most notably Plato and Karl Marx, according to Popper, sought the security of tribal dogma, and became enemies of the open society. Certainly one of the major problems that confronts the growth of social wisdom is the sheer size, complexity, and diversity of the modern world. We need to organize things so that we can, as far as possible, have the best of both worlds--all the benefits of the open society, and at the same time the easy intimacy of tribal life at its best.

The capacity of people to cooperate with one another on the basis of equality might be regarded as an important feature of social wisdom. At one point, Turnbull remarked that "one of the most remarkable features of pygmy life [is] the way everything settles itself with apparent lack of organization. Co-operation is the key to pygmy society" (1961, p. 115). In our vast, complex, diverse, rapidly changing modern world, charged with inequality and conflict, cooperation without organization is almost inconceivable, and in any case often seems difficult to attain. In this context, the extraordinarily successful cooperative movement of Mondragon in Spain deserves consideration. It began in the Basque region of Spain in 1956, astonishingly in the time of Franco's fascist dictatorship. A Catholic priest, José María Arizmendiarrieta, advised five students attending the technical college he had founded how to set up a cooperative firm. The first Mondragon cooperative, ULGOR, employed 23 people and manufactured paraffin heaters. In 2014, the Mondragon Corporation employed over 74,000 people in 257 companies and organizations consisting of banks, manufacturing firms, shops, schools, and a university that evolved from the college Arizmendiarrieta founded. For the Mondragon cooperative movement see: MacLeod (1997); Cheney (2002). For a critical look at Mondragon see Kasmir (1996).

Granted that cooperation is an important element of social wisdom, Robert Axelrod's (1984) *The Evolution of Cooperation* would seem to be a work worth consulting. Axelrod was concerned to answer the question, "Under what circumstances will cooperation emerge in a world of egoists without central authority?" (p. 3). Axelrod exploited the Prisoner's Dilemma game to answer the question. He was concerned with questions about the *strategy*, not the *psychology*, of cooperation. Two players compete; each has a choice--to cooperate or to defect. If both cooperate, both obtain a reward of 3 points; if one defects and the other cooperates, the first obtains 5 points, the other zero points; if both defect, both obtain 1 point. Axelrod set up a Prisoner's Dilemma tournament, and invited game theorists to participate. Each participant contributed a program, a rule that specified the choice to be made--cooperate or defect. All the participants played each other, one by one, each bout consisting of 200 games of the Prisoner's Dilemma. The program that won was among the simplest, TIT-for-TAT: cooperate to begin with, and then copy whatever one's opponent did last time - or, in other words, cooperate as long as one's opponent does too. It is, in other words, in one's own

best interest to cooperate, unless one is dealing with a persistently uncooperative partner. TIT-for-TAT wins, not by scoring higher than its opponent in any game (it cannot do so), but by encouraging others to cooperate by its actions.

Axelrod concludes that cooperation can emerge in a world of egoists if there is a good chance that participants will interact with each other repeatedly, and thus value what the outcome of future interactions may be. And this is the case even if the society of individuals involved adopt a variety strategies for interacting with one another.

The abstract character of the Prisoner's Dilemma would seem to render this game remote from the complexities of real life. Axelrod argues, however, that it is this very abstract character of the game that enables it to capture important features of cooperation that are common to a wide range of diverse real life situations, whether actors are persons, organizations, or nations. Axelrod is, nevertheless, concerned with a very basic aspect of cooperation; as he says, his framework "is broad enough to encompass not only people but also nations and bacteria" (p. 18). Cooperative *discussion*, let alone *rational* or *wise* cooperative discussion, is ignored.

The book does nevertheless come up with advice about how to promote cooperation - when it is desirable. (Cooperation among businesses seeking to fix prices, or among criminals, is not so desirable.) Recommendations include: increase reliability or frequency of interactions; increase rewards of cooperation; make defections more detectable (in connection with arms control, for example); in situations of conflict, break big cooperative steps into lots of little steps, to increase trust; teach people to care for each other.

The Wisdom of Crowds by James Surowiecki turns out, despite its title, to be a disappointment. It sets out to establish, in the main, that the average of independent judgements of many individuals about such matters as the weight of an ox, is likely to be more accurate than almost all the individual judgements. This would seem to have more to do with statistics than the wisdom of crowds.

Finally, two books whose concern is to help promote wisdom in society by means of education. Lin (2006) is a heartfelt cry for schools devoted to education for love, peace, and wisdom. IQ as ordinarily understood is not enough; we need emotional, moral, spiritual, and ecological intelligence (ch. 4). Sternberg (2016) makes a rather more sober plea for universities that promote Active Concerned Citizenship and Ethical Leadership - ACCEL universities. Sternberg concentrates on universities in the context of the USA. He discusses such matters as what the mission of the ACCEL university should be, what skills it should seek to develop in its students, how teaching and learning should proceed, how students and faculty are to be assessed, and problems concerning governance. The book concludes with a series of steps that can be taken to transform an existing university into an ACCEL one. The book is, without doubt, an important contribution to thought about how universities can help humanity acquire a bit more social wisdom. It is striking, however, that the book is primarily about education; very little is said about research, science, the content of academic thought, and the need to change these too, in addition to education. In what follows, I argue that a more fundamental transformation in the university is required if we are to have what we so urgently need: universities rationally devoted to helping humanity make progress towards a wiser world: see also Maxwell (1976; 1984; 2004; 2014; 2017a; 2019).

3 Why is Social Wisdom Urgently Needed?

We need social wisdom to solve grave global problems that menace our future. Without it, there is little hope that these problems will be resolved in a remotely just, peaceful, humanitarian way.

Consider some of these problems. There is the recent explosive growth in world population: For thousands of years it hardly grew at all, up to 1800, when it shot up from one

billion to the present figure of seven and a half billion. There is the destruction of natural habitats, loss of animals in the wild, and rapid extinction of species. There is the spread of deadly modern armaments, and the nightmare of nuclear weapons, ready to be unleashed at a moment's notice to destroy the world. There is our record of lethal modern war, something like 12 million people being killed in war in the 19th century, over 100 million in the 20th century, and the prospects none too good for the 21st century so far. There is pollution of earth, sea, and air. There is gross inequality around the globe, the wealthiest 85 people owning as much as the poorest half of the world's population, inequality actually increasing in recent decades in the UK and elsewhere (*The Guardian*: https://www.theguardian.com/business/2014/jan/20/oxfam-85-richest-people-half-of-the-world). There is the problem of growing resistance of bacteria to antibiotics as a result of their misuse. We face the dreadful possibility that we may return to the state of affairs in the 19th century, when trivial infections would lead to death, and diseases such as TB had no effective treatment. There are the threats posed by social media to democracy, with Trump's election in 2016 receiving help from fake news on Facebook. And most serious of all, there is the menace of climate change: great tracts of the earth's surface may become uninhabitable as a result of rising temperatures, drought, floods, rising sea levels – loss of inhabitable land provoking massive migrations and war. The oceans become warm and acidic, and coral reefs, supporting a multitude of life, the rain forests of the oceans, die.

These global problems seem extraordinarily diverse in character, but they are all the outcome of one factor: modern science in a world without social wisdom.   The astonishing intellectual success of modern science and technology has, of course, led to much that is of immense value. It has made the modern world possible, with all its great benefits. But there is a downside. Modern medicine and hygiene have led to population growth. Modern technology has led to modern industry, transport, and agriculture which, in turn, have led to destruction of natural habitats, extinction of species, pollution, gross inequalities, and global warming. Scientific and technological advances have led to modern armaments-- conventional, chemical, biological and nuclear--and so to the lethal character of modern war.

If modern science had not come about, none of the above global problems would have arisen. But equally, if humanity had possessed wisdom sufficient first, to foresee the likely undesirable consequences of the use of science and technology, and second, to take action to prevent their occurrence, our global problems would not have arisen either. It is the combination of science and technology plus lack of social wisdom that is so deadly.

It is highly relevant that, in connection with the genesis of all our current global problems, warning voices were raised long before the problems became really serious (a point taken up in the text below). Again and again, they were not listened to. This demonstrates two crucial points. First, it is not unrealistic to suppose that people can possess the wit to foresee trouble associated with new social endeavours made possible by modern science and technology. There have always been such individuals. Secondly, wisdom of individuals is not enough. We need those who have power (political, social, industrial, economic, cultural) to have sufficient wisdom to see trouble ahead, and to take appropriate action. But even that is not enough, as I go on to argue below.

Before the advent of modern science, lack of wisdom did not matter too much: We lacked the power to do too much damage to ourselves or the planet. Now, with the unprecedented powers to act, bequeathed to (some of) us by science - powers sufficient to destroy the world - wisdom has become, not a private luxury but a public necessity. We must learn a bit more wisdom, or die.

But is it *social* wisdom that we need? Would it not be enough for our governments, our scientists, our civil servants, captains of industry, media moguls, and other powerful and

influential people to be wise? They are the ones who make the decisions; the rest of us follow.

It is hard to believe that seriously unwise *electorates* would find their way to electing politicians and governments with the kind of wisdom that is required. And it is even harder to imagine that, in such a society, captains of industry and media moguls would have the required wisdom either. Democratic governments are unlikely to be all that much wiser than their electorates, and may well fall short of whatever wisdom electorates do possess. As far as democracies are concerned, then, it is very implausible to suppose that a situation could arise in which general social wisdom is lacking, but this does not matter because government and other powerful bodies possess the appropriate kind of wisdom that is required to ensure global disasters do not develop.

But what about undemocratic nations? I write at a time when China, thoroughly undemocratic, fully recognizes the dangers of climate change, and acts to do what it can to bring down CO_2 emissions without destroying economic development. So-called "democratic USA," on the other hand, has elected by a distinct minority of the popular vote President Trump, who has declared his intention to break with the Paris accord on climate change of 2015. Is democracy, or the superficial appearance of democracy, as in the USA, perhaps a luxury we cannot afford in our present times of impending disasters?

I hope not. I am inclined to think not. My guess is that the world's democratic nations have a far better record of dealing with global problems than that of undemocratic nations. The more undemocratic a nation is, the more criticism of government action is suppressed, and the more difficult it is for governments to learn of the unforeseen bad consequences of their actions. Dictatorial governments are, in general, even more lacking in wisdom than democratic ones. The Chinese government may be aware of the dangers of climate change; it nevertheless imprisons its political dissidents at an alarming rate, and murders them too.

We need social wisdom sufficient, I have argued, first, to foresee the likely undesirable consequences of the use of science and technology, and second, to take action to prevent their occurrence once foreseen. But is it realistic to suppose a society could possess such wisdom? It is. It is highly significant and relevant that, in connection with the genesis of all our current global problems, warning voices were raised long before the problems became really serious. Thus, in connection with global warming, John Tyndall discovered that carbon dioxide is a greenhouse gas as long ago as 1859. Svante Arrhenius realized in 1896 that we would cause global warming: Living in Sweden, he thought it would be a good thing. The first person really to discover that we are causing global warming was Guy Callendar, who gave a lecture to the Meteorological Society in London on the subject in 1938. He was not believed. Any lingering doubts should have been removed, however when, in the early 1960s, Charles Keeling made extremely accurate measurements of the increase in carbon dioxide in the atmosphere. (For an excellent history of the discovery of global warming see Weart (2003). Weart gives an account of the contributions of Tyndall, Arrhenius, Callendar and Keeling.) At the time of writing, in 2017, the world has still not lowered CO_2 emissions! Similar points arise in connection with the genesis of our other global problems. There are invariably individuals capable of foreseeing damaging consequences of our actions, and capable of speaking out about the matter; our problem is that they are not believed or, if believed, their warnings are not acted on. It might be thought that all we need is our *governments* to have sufficient wisdom to heed those who warn of future problems, and to take appropriate action. But, as we have seen, it is unrealistic to suppose that governments have the required wisdom if electorates, in democracies at least, lack it. What is needed is *social wisdom* around the world capable of distinguishing between true, authentic warnings of future troubles, and false, alarmist warnings (of which there are always plenty); this social wisdom, in addition, must be able to galvanize governments to take appropriate action.

I conclude that the world needs appropriate social wisdom to solve its global problems. At the very least, it needs the capacity to foresee undesirable consequences of new social activity made possible by scientific and technological developments before these undesirable consequences become too apparent; and it needs the capacity to amend social actions appropriately, so that undesirable consequences do not develop – or, if they have developed, are rapidly ameliorated.

4 How Can Social Wisdom be Acquired?

The world needs urgently to become wiser. But how is this to be achieved? Philosophers and prophets have been calling for wisdom for thousands of years without any noticeable impact. What conceivable grounds could we have to suppose that our age is somehow in a privileged position to acquire what all previous generations have failed to acquire, a bit more social wisdom? The very idea may strike many as especially absurd in view of our current apparent intensification of the very opposite, social stupidity, in that in 2016 the UK foolishly chose Brexit, and the US foolishly chose to elect Donald Trump President.

There is, however, one key source of learning that everyone tends to overlook. The very institution that is, in a way, the source of our troubles, namely, *modern science*, is just that which can provide the means for the world to learn how to become a bit socially wiser. We can learn from *scientific progress* how to achieve *social progress* towards a wiser world.

Humanity is confronted by two great problems of learning: (1) to learn how to acquire knowledge about the universe, and about ourselves and other living things as a part of the universe; and (2) to learn how to make progress toward a good, wise, civilized world. Our current plight arises from the fact that we have solved the first great problem of learning without also solving the second one. We solved the first problem when we created modern science in the 16th and 17th centuries. This led to the industrial revolution, to all the great benefits of the modern world, and to our current global problems. But this latter consequence only came about because, having solved the first great problem of learning, we failed to solve the second one. It is the second great problem of learning that we now urgently need to find out how to solve. And the key to doing this is to *learn* from our solution to the first problem how to solve the second one: see Maxwell (2000).

The crucial relevant feature of modern science is that it makes astonishing progress. Advances in scientific knowledge and technological know-how since the 17th century have been spectacular, indeed unprecedented. What we now need to do is to learn from scientific progress how to achieve social progress toward a wiser world.

What has made scientific progress possible is the implementation in science of the progress-achieving *scientific method*. In order to learn from scientific progress in knowledge how to achieve social progress in wisdom, we need to discover how to *generalize* scientific method so that it becomes fruitfully applicable to other worthwhile endeavours beside science, and then apply this generalized, progress-achieving methodology to *social life*, to the task of achieving a *socially wise world*. We need, in short, to put the following three steps properly into practice:-

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 worthwhile human endeavour, whatever its aims may be, and not just applicable to the scientific 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 a wise, enlightened, civilized world.

5 The Blunders of the Enlightenment and their Consequences for Academia Today

The idea of learning from scientific progress how to achieve social progress toward a better, wiser world is not new. It goes back to the Enlightenment of the 18th century, especially the French Enlightenment. The *philosophes*, Voltaire, Diderot, Condorcet, and others took Newtonian science as their inspiration, and did all they could to promote the idea that social and political life should be guided by an appeal to experience and reason, and should not be dominated by mere authority and tradition: for excellent accounts of the Enlightenment see Gay (1973) and Israel (2013). But in developing the basic Enlightenment idea of learning from scientific progress how to achieve social progress, the *philosophes* blundered. They got all of the three steps above wrong. They failed to characterize the progress-achieving methods of science correctly; they failed to arrive at the correct generalization of these methods; and, most disastrously of all, they sought to apply these methods, not to social life itself, not to the great task of making social progress towards an enlightened world, but to the task of developing *social science*. They sought to improve *knowledge of social phenomena*, instead of seeking to improve *social enlightenment*.

This defective version of the profound Enlightenment idea was then developed throughout the 19th century, by J. S. Mill, Karl Marx, Max Weber, and others, and was built into academia in the early 20th century with the creation of disciplines and departments of social science: sociology, anthropology, psychology, economics, and the rest: see, for example, Farganis (1993, introduction); Hayek (1979). The outcome was a conception of rational inquiry that dominated universities throughout the 20th century, and is still dominant today. I have called it *knowledge-inquiry*: see Maxwell (1984, chs. 2-3), where knowledge-inquiry is called *the philosophy of knowledge*.

According to knowledge-inquiry, a basic social or humanitarian aim of inquiry is to help promote human welfare by intellectual, technological, and educational means. The proper way for inquiry to do is, in the first instance, to pursue the *intellectual* aim of knowledge. First, knowledge has to be acquired; once acquired, it can be applied to help solve social problems.

An important feature of knowledge-inquiry is that it severely restricts what can be permitted to enter the intellectual domain of inquiry. Traditionally, proponents of knowledge-inquiry seek to justify this system of censorship in the following way. In order to be of value to humanity, it is vital that science, and academic inquiry more generally, obtain authentic, objective, reliable factual knowledge. That in turn means that only factors relevant to the determination of knowledge of fact, such as evidence and logic, can be permitted to influence the intellectual domain of science, and of academic inquiry more generally. Human values and aspirations, political objectives, social factors of all kinds, must be ruthlessly excluded from the intellectual domain: if this does not happen, objective factual knowledge may become mere propaganda or ideology, and science will cease to be of benefit to humanity. Somewhat ironically, factors required to express human problems, human suffering, must be excluded from the intellectual domain, so that science may be of genuine benefit to humanity. Paradoxically, science ignores the plight of humanity so that it may be of genuine benefit to humanity.

Social science may of course improve knowledge about what this group or that holds to be of value, or holds to be a problem of living, but cannot, strictly speaking, acquire knowledge about what *is* of value or a problem of living, for that involves value-judgements. And social science cannot advocate adoption of solutions to problems of living since such advocacy would violate intellectual standards of science, and would not contribute to knowledge.

Knowledge-inquiry, in brief, gives intellectual priority to tackling problems of knowledge; problems of living - problems people encounter in their lives - are either excluded altogether

from the intellectual domain of inquiry, or pushed to the periphery of academic concern and marginalized.

The outcome is that academia today is irrational in a structural and very damaging fashion.

What ought we to mean by "rationality" in this context? The notion of rationality that we require appeals to the idea that there is a no doubt rather ill-defined set of general methods, strategies, or rules which, if put into practice, whatever we may be doing, give us our best chances of solving our problems, achieving our aims, other things being equal. These "rules of reason" do not guarantee success; nor do they dictate precisely what needs to be done. They are "meta-methods" in that they presuppose we have available a repertoire of successful actions, already-solved problems, and the rules of reason tell us how best to marshal already-solved problems to solve our new problem, achieve our current, problematic goal. Rules of reason can be formulated either as rules to help solve problems, or rules to help achieve problematic aims. In this section I appeal to rules formulated to help solve problems; in the next section but one, I appeal to rules formulated to help achieve problematic aims.

Here are four absolutely elementary, wholly uncontroversial rules of problem solving rationality:-

(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.

The first two of these rules have been emphasized in particular by Karl Popper: see, for example, Popper (1959, p. 16). Popper was, however, too opposed to specialization to stress the importance of rule (3); he did not appreciate that the potentially damaging consequences of implementing (3) can be counteracted by implementing (4).

Any problem-solving enterprise that persistently violates just one of these rules must be seriously irrational, and its capacity to solve problems will be adversely affected as a consequence. Academic inquiry today, as a result of the lingering, pervasive influence of knowledge-inquiry, violates *three* of these four rules of reason, when viewed from the standpoint of helping to promote human welfare. The irrationality of academia today is as serious as that.

Rule (3) is put into practice in academia today to a quite astonishing extent. This is indeed one of the most striking features of academia--the extent to which ever more specialized disciplines tackle ever more specialized problems.

Rules (1), (2) and (4) are, however, all violated. Granted that the basic aim of academia is to help promote human welfare, the basic problems it needs to help solve are problems of living - problems of poverty, injustice, ill-health, oppression--deprivation of the good things in life. In order to implement rules (1) and (2), academia needs, as a matter of absolute intellectual priority to:

(1) Articulate problems of living;

(2) Propose and critically assess possible solutions – possible actions, policies, social and institutional arrangements, ways of living, philosophies of life.

But neither (1) nor (2), interpreted in this way, can be implemented within the framework of knowledge-inquiry. Engaging in (1) and (2), so interpreted, may help solve problems of living, but does not solve problems of knowledge, and does not conform to epistemological standards required to contribute to knowledge. And if (1) and (2) cannot be put into practice,

(4) cannot either. The result is that academia, as a result of adopting the paradigm of knowledge-inquiry, violates *three* of the four most basic rules of reason conceivable.

Those wedded to knowledge-inquiry may object that knowledge must first be acquired before problems of living can be tackled rationally. There are a number of things wrong with this objection. First, many conflicts and problems of living require new deeds, new policies, new ideas for action, for their resolution, not (just) new knowledge. Second, we cannot know what kind of new knowledge we need to try to develop unless we have at least a preliminary idea as to what our problems are, and what we propose to do about them. A slight change in the way we formulate a problem can change dramatically the kind of knowledge we need to try to acquire. Construe the basic problem of medicine to be to *cure* disease, and the kind of knowledge we need to try to acquire is very different from that needed if we modify the basic problem slightly so that it becomes to *prevent* disease. This point is especially relevant as far as social science is concerned. Here, the knowledge of social phenomena that we require above all, is knowledge that clarifies what our social problems of living are, and knowledge that assesses the viability of policies intended to help solve social problems. It is only if social problems are articulated, and possible solutions proposed, that we can know what kind of knowledge of social phenomena it is *relevant* to try to acquire.

A quite different objection may be made to the above argument for the gross irrationality of academia today, stemming from its supposed implementation of knowledge-inquiry. Scientists and others do constantly (1) articulate problems of living and (2) propose and critically assess possible solutions, possible *actions*. Those working in the field of medicine highlight health problems arising from such things as diet and lack of exercise, and recommend *actions* designed to alleviate these problems. Others stress, for example, problems arising from overuse of antibiotics, and again recommend actions designed to alleviate these problems. Scientists concerned in one way or another with the environment highlight problems having to do with habitat destruction, mass extinction, global warming, air pollution, and recommend actions designed to alleviate these problems. Those working in the field of peace studies may well recommend policies intended to alleviate conflict or decrease the chances of war.

But much of this work accords perfectly with knowledge-inquiry – the basic idea of which is, first to acquire knowledge, and then apply it to help solve social problems. In making recommendations about diet and exercise, medical experts base their advice on previously acquired knowledge, and the goal sought is uncontentious: health. Policy recommendations concerning the environment again stem from knowledge about the environment previously acquired. In these sorts of cases, solutions to problems of knowledge come first, and proposed solutions to problems of living come second, and amount to the application of knowledge previously acquired.

The case of peace studies is different, however. Some historical knowledge may provide some sort of basis for policy advice, but such advice seems much more nearly to emerge in accordance with the first two rules of reason, indicated above – that is, it emerges from consideration of the problems of living – the conflicts – that are at issue. My guess is that peace studies, and other analogous disciplines (such as development studies), because they do not accord well with the edicts of knowledge-inquiry, have to struggle to establish their intellectual legitimacy, within academia as it exists today (and has existed during the past century).

Economics strikingly corroborates the point I seek to make here. In the case of economics, there is a very obvious problem of living at the heart of the discipline: how to create and distribute wealth or, better, how to create wealth in a sustainable way and distribute it justly. One might suppose that economics, implementing rules (1) and (2), has developed over the centuries as a discipline that seeks to (1) improve the articulation of the basic problem, and

(2) propose and critically assess possible solutions – possible *actions* and *policies*, the pursuit of knowledge being conducted in order to facilitate (1) and (2). Not at all! Nothing could be further from the truth. It is all the other way round. From Adam Smith onwards, economics has been developed as a *science* that seeks to acquire knowledge of economic phenomena. The application of economic knowledge to help solve economic problems is, firmly, a secondary matter. Economics implements knowledge-inquiry, and thus violates *three* of the four most basic rules of reason conceivable, rules (1), (2) and (4), which undoubtedly has much to do with the economic travails that plague the world today: see Maxwell (1984, pp. 137-141; 2nd ed., 2007, pp. 157-171).

The gross structural irrationality of knowledge-inquiry is no mere formal matter. It has severely damaging consequences. It means academia cannot do what most needs to be done to warn humanity effectively about impending global problems before they become too serious – problems that threaten to emerge as a result of human activity made possible by modern science and technology; it means academia cannot dedicate itself to the development of policies that can, if enacted, prevent foreseen global problems from becoming serious; and it means academia cannot help humanity learn what to do if these problems do become serious. Knowledge-inquiry is simply not equipped to help humanity discover what our problems of living are, and what we need to do about them. (For a much more detailed discussion of the damaging consequences of putting knowledge-inquiry into practice see Maxwell (1984, ch. 3).)

Despite this, as we have seen, scientists and scholars have, again and again, foreseen future global problems, and have warned about the need to take action before they become serious. But again and again, such warnings have, for far too long, been ignored. Arrhenius discovered that global warming would be a consequence of industrialization in 1896, and we still have not succeeded in reducing CO_2 emissions in 2017! Others have long warned about such dangers as habitat destruction, species extinction, pollution and nuclear weapons, often without much impact on public understanding or government policy. Hampered by allegiance to knowledge-inquiry, academia has not been able to warn the public effectively about impending dangers – nor create public awareness about what needs to be done to keep these dangers at bay.

It may be that knowledge-inquiry exercised its greatest influence over academia in the 1950s. Since then, partly no doubt because of growing awareness of global problems, attempts have been made to loosen or modify the restricting grip that knowledge-inquiry exerts. The importance of the social impact of research is stressed; scientists seek to engage with the public, and seek to promote public understanding of science; there is growing emphasis on the importance of inter-disciplinary research to counteract specialization; disciplines such as peace, development, and environmental studies, concerned with problems of living, grow in importance in universities. Despite developments such as these, academia continues to violate three of the four most elementary principles of rational problem solving conceivable; knowledge-inquiry persists. A much more radical transformation of academia is required. Academic inquiry needs to be reorganized so that all four rules of reason are put into practice. (For a much more detailed discussion of the extent to which knowledge-inquiry still persists see Maxwell (1984, ch. 6, and 2nd ed., ch. 6); see also Maxwell (2014, ch. 4).)

6 Wisdom-Inquiry Implementing Problem-Solving Rationality

What, then, needs to be done to correct the structural irrationality of knowledge-inquiry, and ensure that academic inquiry is somewhat more rationally devoted to the task of helping humanity acquire social wisdom and make social progress toward a good, wise world? The answer emerges straightforwardly from the discussion of the previous section. Academia needs to be modified just sufficiently to ensure that all four rules of reason are put into

academic practice. The outcome would be a new kind of inquiry that I shall call *wisdom-inquiry* (implementing problem-solving rationality). Here is an indication of the changes that need to be made to academic inquiry to ensure that all four rules of reason are put into academic practice.

To begin with, in order to implement rules (1) and (2), a radical revolution needs to be brought about in the nature of social science and the humanities. Instead of merely seeking knowledge, these disciplines have, as their fundamental task, to help humanity solve problems of living so that what is of value in life may be realized – apprehended and created. (What is of value in life is, of course, profoundly problematic. This issue will be discussed in the next section.) The proper, basic intellectual tasks of social inquiry and the humanities are to articulate problems of living, and propose and critically assess possible solutions – possible and actual *actions*. These are the intellectually fundamental tasks of the whole of the academic enterprise. Social inquiry ceases, at a fundamental level, to be *science*, even though it includes social science at a subordinate level. For social inquiry and the humanities need of course to tackle subordinate problems of knowledge about the social world (rule 3) in order to assist the intellectually fundamental tasks (rule 4). There will also need to be two-way communication with those engaged in relevant research in natural science and technology (rule 4).

The task of social inquiry is not just to explore, imaginative and critically, how problems of living might be solved, and communicate the outcome to the public; it is to promote the adoption of this intellectual activity in the diverse contexts of the social world: politics, industry, the media, international relations, and so on. From the standpoint of achieving what is of value in life, what really matters is the quality of thinking in the public domain – its rationality, relevance and effectiveness. The whole relationship between the university and society needs to change: the aim is not just to study the social world, but to help change it so that it becomes more rational – increasingly able to tackle problems of living in cooperatively rational ways. Excellent solutions to important problems of living are discovered and put into practice in people's lives all the time, in all sorts of contexts: academic wisdom-inquiry would hoover up such discoveries, and make them as widely available as possible. Academia may have as much to learn from society, as society from academia. Academic problem solving is a specialized part of what really matters--the problem solving that goes on in the social world. Thus, in order to be rational, academic problem solving needs both to guide, and be guided by, problem solving in the social world, in accordance with rule 4. The proper job of academia is to inform, propose and criticize, but not, of course, to dictate: academia needs just sufficient power to protect its independence from government, industry, public opinion, but no more.

The basic intellectual aim of inquiry is not just to acquire knowledge; rather it is to seek and promote social *wisdom* by rational means - wisdom being understood in the way indicated at the beginning of this chapter. (For a more detailed account of wisdom-inquiry implementing problem-solving rationality see Maxwell (1984, ch. 4, and 2nd ed., ch. 4; 2004, pp. 83-94; 2014, chs. 2-5).)

7 Wisdom-Inquiry Implementing Aim-Oriented Rationality

The profoundly damaging structural irrationality of academia today owes its existence to the fact that it incorporates the three blunders made by Enlightenment *philosophes* long ago in the 18th century. Let us now look more closely at these three blunders. What are they? What needs to be done to put them right? What implications would that have for science, for academic inquiry more generally, and for the whole character of the Enlightenment Program to learn from scientific progress how to make social progress toward an enlightened world?

What emerges is a conception of rational inquiry that develops and deepens wisdom-inquiry as depicted in the previous section.

Step (I): the progress-achieving methods of science. In his *Principia*, Newton claimed: "In [natural] philosophy particular propositions are inferred from the phenomena, and afterwards rendered general by induction. Thus it was that ... the laws of motion and of gravitation, were discovered" Newton (1962, p. 547). Newton's claim is false: he did not, and could not have, established his law of gravitation in this way: see Maxwell (2017, pp. 30-39, 69-94). The Enlightenment *philosophes* were, nevertheless, immensely impressed by Newton's claim to have derived his law of gravitation from the phenomena by induction without appealing to metaphysical hypotheses: they held that the progress-achieving methods of science consist in assessing claims to knowledge impartially with respect to evidence. This is still the view of the scientific community today: see Maxwell (2017a, pp. 73-4).

This orthodox conception of scientific method of *standard empiricism* (as I have called it) is, however, untenable. In physics, a new theory, in order to be accepted, must be (a) sufficiently empirically successful, and (b) sufficiently *unified*. (A unified theory is one which makes the same assertion about all the phenomena to which it applies: see Maxwell (2017a, ch. 5). A disunified, "patchwork quilt" theory, makes different assertions about different domains of phenomena. If there are N distinct ranges of phenomena to which the theory applies in which what the theory asserts differs from all the others, the degree of disunity is N. For unity we require that N = 1.) Given any accepted physical theory, 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 metaphysical assumptions, and associated methods, these 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 figure 1. The assumption at the top, at level 7, is: The universe is such that we can acquire some knowledge of our immediate circumstances sufficient to make life possible. 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.

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 unified,* or *explanatory* - explanatory theories being unified. 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
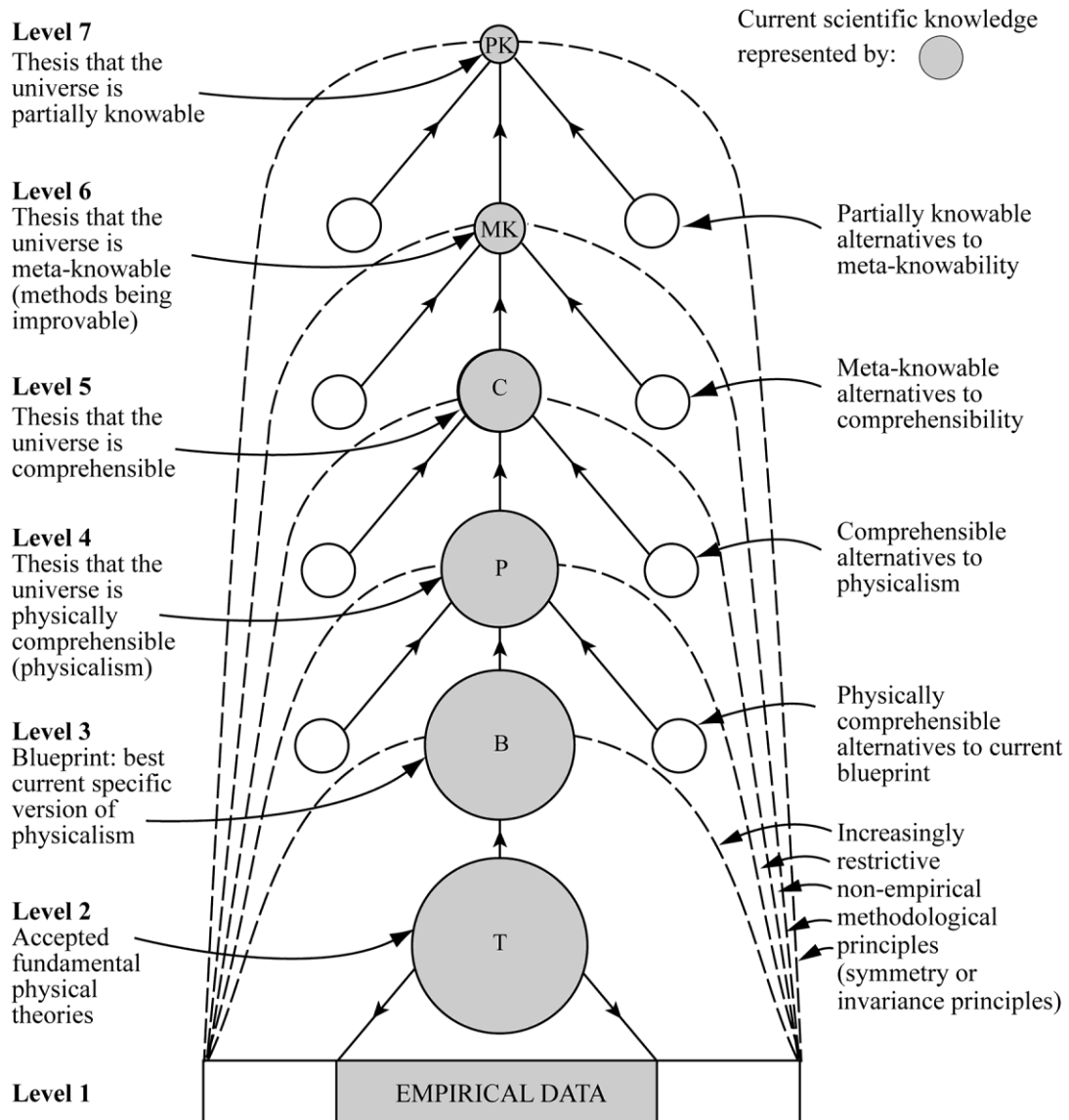
Level 7
Thesis that the universe is partially knowable

Level 6
Thesis that the universe is meta-knowable (methods being improvable)

Level 5
Thesis that the universe is comprehensible

Level 4
Thesis that the universe is physically comprehensible (physicalism)

Level 3
Blueprint: best current specific version of physicalism

Level 2
Accepted fundamental physical theories

Level 1

Current scientific knowledge represented by:

Partially knowable alternatives to meta-knowability

Meta-knowable alternatives to comprehensibility

Comprehensible alternatives to physicalism

Physically comprehensible alternatives to current blueprint

Increasingly restrictive non-empirical methodological principles (symmetry or invariance principles)

PK
MK
C
P
B
T

EMPIRICAL DATA

Figure 1: Aim-Oriented Empiricism

alone decides what theories are accepted and rejected, physics in practice, in a somewhat surreptitious way, has put something like the aim-oriented empiricist view into practice. If it had not done, we would still be stuck with Aristotelian science. (For a more detailed refutation of standard empiricism and defence of aim-oriented empiricism see Maxwell (1984, ch. 9 and 2nd ed., chs. 9 and 12; 2004, chs. 1-2; 2017a, chs. 1-3 and 5; 2017b).) In addition to metaphysical assumptions, the aims of science have inherent in them profoundly problematic assumptions about values and politics - the social uses of science. Scientific rigour requires that these problematic value and political assumptions be acknowledged within science too, so that they can be critically assessed and, we may hope, improved, within the context of aim-oriented empiricism. Orthodox standard empiricism, however, holds that the basic intellectual aim of science is the fixed one of *truth*; this does not permit sustained discussion of problematic assumptions concerning metaphysics, values and politics as an integral part of science itself. In the interests of a misconceived conception of scientific rationality, the rationality of science is undermined.
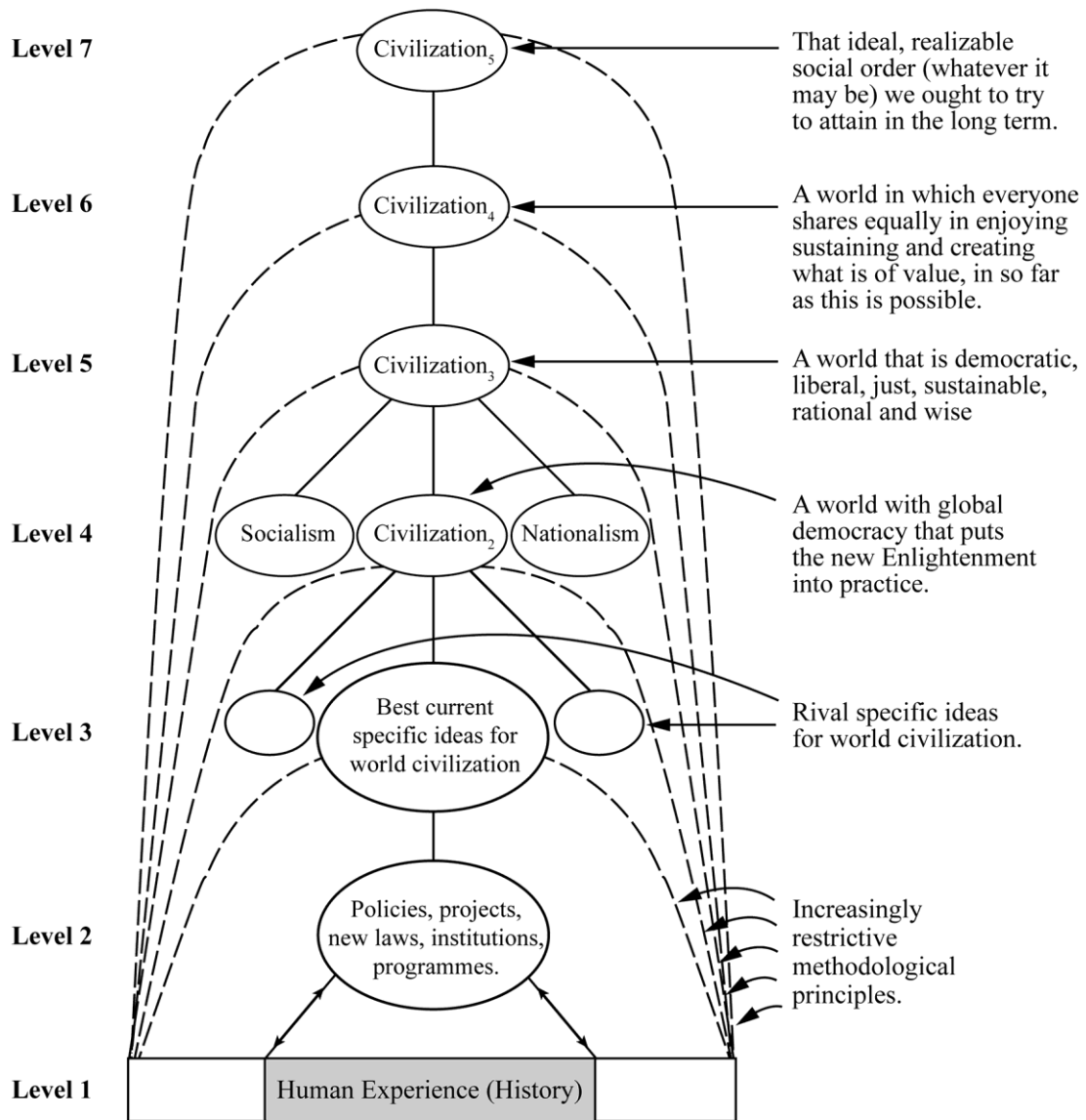
Figure 2: Aim-Oriented Rationality Applied to the Task of Creating a Wiser World

Correcting the first Enlightenment blunder, then, involves rejecting the orthodox standard empiricist conception of scientific method that holds that evidence alone decides what theories are accepted, and adopting and implementing aim-oriented empiricism instead as constituting the correct progress-achieving methods of science.

Step (II) 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.Step (III) 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 to help people do it. This means that social inquiry is not primarily social *science*; it is not primarily devoted to the pursuit of *knowledge* of social phenomena: Rather, the various branches of social inquiry and the humanities have two basic tasks. First, they need to do what I indicated above – promote increasingly cooperative rational tackling of problems of living in the social world. Second, they have the task of helping humanity put aim-oriented rationality into practice in personal and social life. Social inquiry needs 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, namely 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 and associated methods of diverse social endeavours.

Aim-oriented rationality is especially relevant when it comes to the task of making progress towards a good, civilized world: see figure 2. The aim of this endeavour is inherently and profoundly problematic for all sorts of more or less obvious reasons. Here, above all, we need to try to improve our aims and methods as we proceed. It is vital to implement aim-oriented rationality. Failure to do so accounts for some of the greatest disasters of the 20th century. Utopian ideals and programs, whether of the far left or right, have promised heaven on Earth but, pursued in a dictatorial or other autocratic fashion, have led to horrors. Stalin's and Hitler's grandiose plans led to the murder of millions. Even saner, more modest, more humane and rational political programs, based on democratic socialism, liberalism, or free markets and capitalism, but bereft of aim-oriented rationality, seem to have failed us (to some extent at least).

The astonishing intellectual success of modern science and technology have made it possible for us to achieve the goals of more people, more industry and agriculture, more wealth, longer lives, more development, housing and roads, more travel, more cars and aeroplanes, more energy production and use, more and more lethal armaments (for defence!). These goals have seemed inherently desirable and, in many ways, are desirable. But our successes in achieving these aims has also brought about global warming, war, vast inequalities across the globe, destruction of habitats and extinction of species. All our current global problems are the almost inevitable outcome of our long-term failure to put aim-oriented rationality into practice in life, so that we actively seek to discover problems associated with our long-term aims, actively explore ways in which problematic aims can be modified in less problematic directions, and at the same time develop the social, the political, economic and industrial *muscle* able to change what we do, how we live, the technology we develop, so that our aims become less problematic, less destructive in both the short and long term. We have failed even to appreciate the fundamental need to improve aims and methods as the decades go by. Because of the dominance of knowledge-inquiry, academia cannot even entertain the idea that it has, as a basic task, to help humanity learn how to put aim-oriented rationality into practice in all the diverse contexts of social life. Even worse, academia does not put aim-oriented empiricism and aim-oriented rationalism into practice itself. As a result, the mere *idea* that it is of fundamental importance to put aim-oriented rationality into practice in personal and social life is, as yet, all-but unknown. Conventional ideas about rationality are all about *means*, not about *ends*, and are not designed to help us *improve* our ends as we proceed.

There is another way in which academia dominated by knowledge-inquiry fails humanity. It cannot devote itself to public education about what our problems are, and what we need to

do about them. It is vital that we tackle our global problems democratically. But elected governments are not likely to be much more enlightened than electorates. They may be less enlightened, appealing to the lowest common denominator. Democracies need electorates to be enlightened about what our problems are, and what we need to do about them; without such enlightenment, democratic governments are unlikely to do what needs to be done to resolve global problems; and there is always the danger that democracies become dysfunctional. Wisdom-inquiry would be actively devoted to acquiring and promoting education about what our problems are, and what we need to do about them; knowledge-inquiry, engaged in the pursuit of specialized knowledge, cannot begin to do what is required.

The outcome of implementing all four rules of reason indicated above and, on top of that, correcting the three blunders of the Enlightenment in the ways just indicated, would be fully fledged *wisdom-inquiry*, a kind of academic inquiry very different from what we have at present. The basic task of wisdom-inquiry is to devote *reason* to the enhancement of *wisdom* in the social world, wisdom being understood as characterized at the beginning of this chapter. For a much more detailed characterization of wisdom-inquiry, and the many ways in which it differs from knowledge-inquiry, see Maxwell (1984, especially chs. 4, 5, 7-10; 2004; 2014 2017a, ch. 8; 2019). For a list of 23 structural changes that need to be made to knowledge-inquiry to transform it into wisdom-inquiry see www.ucl.ac.uk/from-knowledge-to-wisdom/whatneedstochange .

Aim-oriented rationality and wisdom-inquiry both stress that what is ultimately of value in life, at both personal and social levels, is profoundly problematic. Do they have, nevertheless, some basic value commitment? In Maxwell (1984) I argue that it is individual persons that are ultimately of value in existence and, at best, loving relationships between persons. Both aim-oriented rationality and wisdom-inquiry should be interpreted as requiring cooperative participation, and being devoted to cooperative ends – tempered by practicalities, and acknowledging and tolerating diversity of views, values and ways of life. Wisdom-inquiry does make a basic value and political commitment (corresponding to the metaphysical commitment of physics depicted in figure 1), which I have tried to indicate in figure 2. It is a value commitment implicit in cooperative, rational discussion.

Wisdom-inquiry does better justice than knowledge-inquiry to both aspects of inquiry - inquiry pursued for the sake of such practical ends as health, relief of suffering, prosperity *and* inquiry pursued for its own sake, for the sake of enhancing our capacity to see, to know, to understand. There are a number of ways in which wisdom-inquiry does better justice to inquiry pursued for its own sake.

First, aim-oriented empiricism, a central component of wisdom-inquiry, does better justice to the search for understanding by theoretical physics. Aim-oriented empiricism clarifies (as standard empiricism does not) what it is for a physical theory to be unified or explanatory, and thus able to enhance our understanding of the physical universe; it demands (as standard empiricism does not) that a physical theory, in order to be acceptable, must be unified or explanatory; and it provides (as standard empiricism does not) a rational, if fallible, method for the discovery of new theories in physics. For these and further points see Maxwell (2017a, ch. 5).

Second, wisdom-inquiry is so designed that a basic task becomes to assist the flourishing of empathic understanding between individuals, groups, cultures and societies – something that is hardly the case within the context of knowledge-inquiry. For, according to wisdom-inquiry, the intellectual activities of articulating problems of living, and proposing and critically assessing possible solutions, are central and fundamental for social inquiry, and indeed for the whole of inquiry. But it is just these intellectual activities that we need to engage in, in order to acquire good empathetic understanding of each other. If I am to understand you in the way you understand yourself I need to know what your problems of

living are and what you might do in response to them - what you may imagine yourself doing. The kind of thinking that wisdom-inquiry holds to be intellectually fundamental and central is just the kind of thinking we need to engage in to improve our empathetic understanding of each other. Such understanding is of great practical value, in that it is required for cooperative action; but it is also of intrinsic value. It is required to see what is of value in individual human beings; and it is integral to friendship and love: see Maxwell (1984, pp. 59-63, 181-9, and ch. 10; 2004, pp. 90-2). Knowledge-inquiry can study empathy, but can hardly promote it, as it does not satisfy knowledge-inquiry intellectual standards.

Third, wisdom-inquiry is able to do better justice to the value of inquiry pursued for its own sake than knowledge-inquiry can because of the very different roles that feelings, desires and values have in the two kinds of inquiry. Knowledge-inquiry demands that these things be excluded from the intellectual domain; they can play no rational role in the assessment of claims to knowledge of factual truth. Wisdom-inquiry, by contrast, insists that feelings, desires, and values have a vital, rational role to play within the intellectual domain. We cannot hope to discover for ourselves what is of value if we do not attend to our feelings, desires, and values: but not everything that feels good is good; not everything we desire is desirable; and not everything we value is genuinely of value. Wisdom-inquiry requires that feelings, desires, and values be subjected to critical scrutiny so as to enhance our capacity to see, to experience, to appreciate and understand what is genuinely of value in the world around us. And even though feelings, desires and values have an important rational role to play within wisdom-inquiry, this does not mean that this mode of inquiry succumbs to the fallacy of supposing that what we desire to be true is true, or what feels as if it ought to be true, is true. On the contrary, open acknowledgement of the role of feelings and desires in thought makes it possible to be all the more critical of factual hypotheses we ardently desire to constitute fact. Knowledge-inquiry, by contrast, in excluding feelings, desires, and values from the intellectual domain, thereby undermines our capacity to see, experience and understand what is of value in the world, or may even abolish it altogether. It inculcates a sort of split between thought and feeling in the individual, in the mistaken belief that rationality demands it.

Fourth, in banishing desires and feelings from the intellectual domain, knowledge-inquiry thereby exempts desires and feelings that actually prompt and motivate intellectual work from intellectual scrutiny; as a result, these desires and feelings may come to be not of the best. Scientists often proudly proclaim that passionate curiosity is the noble emotion that inspires their work - but if so, how come that there are, in science, so many passionate disputes about priority? The desire for immortality, a Noble prize, a Professorship, or tenure, may be every bit as important as passionate curiosity!

Fifth, wisdom-inquiry is far better able to nourish and stimulate what Einstein called the "delicate little plant" of "holy curiosity": Einstein (1949, p. 17). From the standpoint of the intellectual or cultural aspect of inquiry, what really matters is the desire that people have to see, to know, to understand, the passionate curiosity that individuals have about aspects of the world, and the knowledge and understanding that people acquire and share as a result of actively following up their curiosity. Wisdom-inquiry promotes all this by recognizing that inquiry, at its most fundamental, is personal and social, a synthesis of the intellectual and emotional, inquiry being at its heart a struggle to articulate and solve problems, whether problems of thought or of life. Wisdom-inquiry education would seek to tackle serious, open, unsolved problems, students being encouraged to suggest ways in which the formulation of the problem in hand might be improved, and how it might be solved, background knowledge and skills being acquired as the imaginative and critical exploration of the problem proceeds. Wisdom-inquiry would encourage students to articulate their own intellectual problems, so that they discover how to transform a feeling of unease, of bafflement, confusion, or even

stupidity, into a clearly articulated problem. Education proceeding within the context of knowledge-inquiry is less well equipped to stimulate curiosity and wonder. All too often students are expected to learn up a vast body of knowledge without being informed about the problems, the passionately personal quests, that gave rise to this body of knowledge in the first place. To be stuffed full of answers to questions without being told what the questions were in the first place - let alone being given the opportunity to think for oneself about the questions before being given the answers - is to be subjected to a process almost designed to kill curiosity, the desire to ask and try to answer questions for oneself. This is all the more the case when the student is given no opportunity, within the framework of knowledge-inquiry education, to articulate her own questions, to transform a feeling of bafflement into an articulated problem.

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": Maxwell (1976, p. 5).

The hope is that if the Enlightenment idea can be put properly into practice, so that rationality, arrived at by generalizing the progress-achieving methods of science, is put properly into practice in social life, humanity might learn how to make social progress towards a wiser world almost as rapidly and successfully as science has made progress towards greater knowledge of the natural world. There are, however, at least four reasons why social progress towards a wise world even in a perfectly rational society cannot proceed with anything like the rapidity of scientific progress. Scientific progress takes place these days as a result of there being body of educated, highly talented and motivated scientists who are well paid and funded to do the job. By contrast, social progress involves everyone--the dedicated, the altruistic, the criminal, the old, the ill, the mad, the very young, and most will not be paid at all to contribute to the task in hand. Secondly, in natural science, experiments can be performed to test hypotheses without this causing human suffering. By contrast, social experiments in living that go wrong may well cause much human suffering. And they may resist dismantling. New legislation or new institutions that turn out to have all sorts of unforeseen bad consequences, may be difficult to remove. That social experiments may well lead to human suffering provides a strong reason for performing such experiments *in imagination* so that any suffering that may result occurs only in the imagination. Thought experiments, important in natural science, are vital in the field of social inquiry. In the third place, as far as natural science is concerned, when a theory is refuted by an experiment it is reasonably clear that a refutation has taken place. By contrast, when a new policy or piece of legislation turns out to have adverse consequences when put to the test of human experience, it is very likely not to be so transparently obvious to everyone that the initiative is a bad idea. Even if many suffer, some may well benefit. Finally, in natural science there is an agreed aim (even if the real and problematic aim is repressed, as we have seen). When it comes to the aim of a good, wise world, people hold widely differing ideas as to what such an aim should be (one of the reasons why it is so important to put aim-oriented rationality into practice). Lack of agreement about aims means there will be disagreement about what needs to be done. (In slight mitigation of this last point, it needs to be appreciated that aim-oriented

rationality can help groups resolve conflicts concerning aims and ideals by helping them distinguish clearly unspecific aims they can agree about, high up in the hierarchy of aims, from much more specific aims about which there is disagreement, low down in the hierarchy of aims. Agreed aims can then help resolve that about which there is disagreement.)

The task of making social progress towards a wise world is, in short, vastly more difficult than the task of making scientific progress towards greater knowledge. But this is not a reason for abandoning the Enlightenment idea. On the contrary, it underlines just how important it is. Making social progress towards an enlightened world is extraordinarily difficult; all the more important, then, that we go about it in ways that give us the best chances of making as much success as possible - that is, employing progress-achieving rationality aided by institutions of learning well-designed and devoted for the task.

8 Conclusion

The argument of this chapter might be summed up like this. We are confronted by grave global problems, many of which promise to intensify as time goes by. The future of civilization may be at risk. These global problems have arisen because the astonishing intellectual success of modern science and technology have bequeathed to some of us unprecedented powers to act in a world that lacks social wisdom. Before the advent of modern science and technology, lack of wisdom did not matter too much; we lacked the power to do too much damage to ourselves or the planet. Now that the products of science and technology are everywhere apparent, it has become a matter of supreme urgency that we acquire a bit more social wisdom. But how can this be done? The answer is inherent in what may seem to be the source of the trouble: modern science. We can learn from scientific progress how to achieve social progress toward a wiser world. The progress-achieving methods of science can be generalized, and employed fruitfully in the immensely difficult but vital task of enhancing social wisdom, so as to make progress in that task too. This idea goes back to the 18th century Enlightenment. Unfortunately, the *philosophes* of the French Enlightenment, in developing this profoundly important idea, made three monumental blunders. The botched version of the Enlightenment idea that resulted shaped the way natural and social science developed throughout the 19th and 20th centuries. The outcome is that academic inquiry today as pursued in universities around the world embodies the Enlightenment idea of learning from scientific progress how to achieve social progress, but in a seriously dysfunctional form. Academia today incorporates all three Enlightenment blunders. Granted that our concern is that the world should acquire a bit more wisdom, the most important task before us is to reform academic inquiry so that it corrects the three Enlightenment blunders. This would involve transforming *knowledge-inquiry* into *wisdom-inquiry*. Almost every branch and aspect of academia needs to change, to a greater or lesser extent.

In brief, in order to acquire a bit more social wisdom, we need our institutions of learning to be rationally devoted to the job. At present they are not, and that is the underlying source of our current global malaise.

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