

FRIENDS OF WISDOM

NEWSLETTER

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WISDOM MATHEMATICS

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For over thirty years I have argued that all branches of science and scholarship would have both their intellectual and humanitarian value enhanced if pursued in accordance with the edicts of wisdom-inquiry rather than knowledge-inquiry.

What, then, about mathematics? How would the intellectual and human value of mathematics benefit from being pursued within the framework of wisdom-inquiry? Is it not wildly implausible to suppose that this august field of mathematics could somehow benefit from a dose of wisdom-inquiry? Would it become more rigorous? Or more useful? Would wisdom-inquiry help mathematicians prove theorems, or deploy their mathematical results in wiser ways?

Is not mathematics, in any case, almost paradigmatic of knowledge-inquiry? It is here, after all, in pure mathematics, that we have proven knowledge, secure knowledge, something we do not have in any other field (except logic, itself perhaps a branch of mathematics). It almost looks as if mathematics is a counter-example to, a refutation of, my general thesis.

A second look, however, might incur some doubts. It may begin to seem highly implausible that pure



mathematics can be regarded as a branch of knowledge at all.

Problems of Platonism

Suppose we ask: What is pure mathematics knowledge *about*? One answer is Platonism.

Mathematics embodies knowledge of the abstract entities it purports to be about: number, spaces (of various kinds), groups, fields, functional relationships—ultimately, perhaps, sets and relationships on sets. Immediately, something very odd arises. No one has ever seen any of these abstract mathematical entities. We have no real evidence for the existence of these entities whatsoever. How is it possible for there to be absolutely secure, proven knowledge of entities which we have no grounds whatsoever to hold exist?

Does not Platonism demand that mathematics (and in what follows I

mean pure mathematics) is held to be wildly speculative and conjectural –far more so than the wilder flights of theoretical physics?

Plato might have replied that mathematicians do directly “see” these mathematical entities with the mind’s eye—proofs helping the mind’s eye to see more clearly. But this kind of intellectual intuitionism is hardly very plausible even when put forward in the context of the mathematics of Plato’s day—elements of Euclidean geometry (to speak somewhat anachronistically). It is wildly implausible when put forward in the context of modern mathematics, with its extremely abstract entities that resist all attempts at visualization, and with notions of proof that seem to have little to do with aiding mental visualization. Mathematicians may develop mental images associated with the mathematics they work in, and these images may have a certain heuristic value, but mathematical results can hardly be said to be about these images, proofs acquiring their certainty from the fact that mathematicians “see” these entities with the mind’s eye. Either mathematics is about mental images per se, or it is about independently existing non-mental entities of which we form mental images. If the former, mathematics has to be put alongside descriptions of other imaginings, dreams and daydreams, as having the same character and epistemological status, a branch of phenomenology or psychology. If the latter, imagining such entities can provide no grounds whatsoever for holding that these entities really do exist: mathematics, interpreted to be about such entities (for whose existence there is no evidence whatsoever) would be

irredeemably speculative. Platonism must plump for one or other option, but neither does justice to the actual nature of mathematics. Platonism is, it seems, untenable.

Alternatives to Plato

Much of 20th century philosophy of mathematics has been concerned to find an alternative to Platonism, one which rescues the idea that mathematics is a branch of secure, proven knowledge from the collapse of Platonism. All these attempts, in my view, fail.

The best known, perhaps, is the logicism of Frege, Russell and Whitehead. This holds that mathematics is an elaboration of logic. Logicism is generally held to fail for technical reasons. In deriving mathematics from logic, Russell and Whitehead were obliged to introduce postulates that could hardly be judged to be a part of logic. There is in my view a very much more serious objection to logicism that is never mentioned in the literature. Logicism, if successful, would reveal mathematics to be utterly intellectually disreputable. For, to put it bluntly, it would reveal that mathematics amounts to nothing more than increasingly intricate, obfuscating ways of asserting “p or not p” (which one may take to be a simple, paradigmatic truth of classical logic). What could be more intellectually disreputable? An elementary principle of intellectual integrity is that one says what one has to say in as simple, transparent a way as possible. All of mathematics would violate this principle horribly, if logicism were correct.

A modified version of this view, which might be attributed to Cantor or, perhaps with more justice, to the composite

French mathematician Bourbaki, holds that mathematics is just elaborations of set theory. This is more plausible. A great deal of mathematics is formulated, at a fundamental level, in the language of set theory. I will criticize this view, briefly, later on.

Another attempt to rescue mathematics as knowledge from the downfall of Platonism is intuitionism. This can be attributed to L. E. J. Brouwer. According to intuitionism, mathematics is to be interpreted as being about, and embodying knowledge of, our mental constructs. Intuitionism is of some interests to mathematicians because it rejects “ p or not p ” of classical logic, and regards reductio ad absurdum proofs as invalid. It is of technical interest to see how much of classical mathematics can be derived from the impoverished means of intuitionism. As a view about the nature of mathematics, however, intuitionism seems straightforwardly untenable, for the reasons given above.

Another, almost desperate, attempt to construe mathematics as knowledge after the downfall of Platonism goes by the name of formalism. According to formalism, mathematics consists of nothing more than uninterpreted symbols, as written down on the page, manipulated by means of specified rules. Formalism hardly succeeds in doing justice to the profound significance and value of mathematics. Nor does it, in the end, succeed in representing mathematics as knowledge. Formalism is often attributed to David Hilbert but, in my view, this is a mistake. Hilbert held that it was useful to regard axiomatic systems as uninterpreted systems of symbols manipulated by precise rules—in order to prove meta-

theorems about such systems, such as those having to do with consistency and completeness. But this does not mean Hilbert held formalism to give the correct account of mathematics. When told a mathematician had given up mathematics to write novels, Hilbert remarked “Ah, he did not have enough imagination to be a mathematician”—hardly the comment of a formalist.

Attempts to construe mathematics as a branch of knowledge have not, it seems, met with great success. The paradigmatic case of knowledge looks, on closer inspection, rather less clear cut than one might suppose.

Wisdom-Inquiry Mathematics

Reject knowledge-inquiry and accept wisdom-inquiry instead, and we are no longer obliged to construe mathematics as a branch of knowledge. What, then, is it? I suggest that we should see mathematics as the enterprise of developing and unifying problem-solving methods, the enterprise of exploring and delineating problematic possibilities. Mathematics is not about anything actual; it is about (problematic) possibilities. Given a piece of axiomatized mathematics—Euclidean geometry say—what matters is not whether anything, X , actually exists—such as physical space—which is such that the axioms and theorems of Euclidean geometry, when interpreted to be about X , are true of X . What matters, rather, is that *if* anything, X say, exists which is such that when the axioms of Euclidean geometry are interpreted as being about X they are true of X , *then* the theorems of Euclidean geometry are true of X as well. That is what matters to the mathematician. Not that any such X exists, but if such an X exists, the

theorems will be true of X (granted that the axioms are).

Pure mathematics does not embody knowledge of anything. Rather, it is a treasure trove of interrelated problem-solving methods, highly significant and useful for a variety of reasons and purposes, a systematic survey of significant problematic possibilities. Mathematics is meaningful but indifferent, at a formal level, as to whether anything actually exists which makes it true. This view, incidentally, does justice to Hilbert's remark about imagination. One needs imagination in order to see the possibilities that a piece of mathematics would be about were these possibilities to exist in actuality.

The Problem of Mathematical Significance

My view is that 20th century philosophy of mathematics has been preoccupied with the wrong problems. There is a fundamental problem that has been ignored, namely: How do we distinguish between significant and insignificant mathematics? One could imagine endlessly many branches of mathematics existing corresponding, for example, to various board games like drafts and chess. One would have theorems stating: given such and such a position, the shortest number of moves required for mate by white is six. This kind of mathematics is insignificant, and is to be contrasted with what G. H. Hardy would call "real" mathematics: number theory, analysis, geometry, algebra, topology, and so on. What is the basis for this distinction? Given the modern proliferation of specialized kinds of mathematics which many mathematicians regard as "trivial" or insignificant, and the danger

of mathematics being swamped by this sort of thing, this problem of significant mathematics is of practical importance for mathematics itself, as well as being important for our understanding of the nature of mathematics.

One could think that Platonism attempts to solve the problem. Significant mathematics is that part of mathematics which is about real, Platonic, existing mathematical entities, while insignificant mathematics is insignificant because it is not about anything. (Roger Penrose holds a version of this view: see his *The Road to Reality*.) But this attempted solution does not work. We have no reason whatsoever for holding that those and only those entities corresponding to significant mathematics actually exist. Besides, significance is a matter of degree, and may well be multi-faceted, whereas the distinction existence/non-existence is sharp, absolute, and uni-faceted.

In order to solve the problem we need to bring in values, and relate mathematics to values. My criticism of knowledge-inquiry is that it suppresses highly problematic, influential assumptions concerning metaphysics, values and politics. This is true of physics, and natural science more generally. And it is true of mathematics.

If we view mathematics from a knowledge-inquiry perspective, rigour seems to require that anything as irrational, or non-rational, as values must be excluded from mathematics. Allowing values to influence what goes on in mathematics could, it seems, only subvert mathematical rigour.

But viewed from a wisdom-inquiry perspective, it is all the other way round. We need to bring values into mathematics in order to make sense of, and improve, our judgements about what is mathematically significant and insignificant.

If we exclude consideration of values from mathematics, we deprive ourselves of any rationale for making the distinction. It will become a mere matter of subjective taste—more or less the situation today.

So what is the solution to the problem of mathematical significance? It is vital to remember the links between mathematics and life. Mathematics begins with the discovery that a problem (or set of problems) in one area of life or activity is similar in certain respects to a problem (or set of problems) in another, possibly apparently very different area—so that solutions to problems in one field can be used to solve problems in the other field. An early example of this is the discovery that problems connected with counting sheep are similar to counting people, stones, or twigs. Another early, but mathematically much more profound, example is the discovery that problems connected with counting are, in some respects, similar to problems connected with measuring lengths, areas and volumes. This led to the discovery of irrational numbers. There is also Fermat's and Descartes' discovery that geometrical problems and algebraic problems can be interconnected (via Cartesian coordinates). Much of the power of mathematics resides from this feature, that a problem that may be insuperably difficult to solve in one field becomes, when translated into an

equivalent problem in another field, much easier to solve—even solvable by means of standard methods. The problem-solving power of mathematics is enormously enhanced as a result of its multi-faceted interconnectedness. I am inclined to conjecture that one of the important functions of set theory may be, in providing something like a common language for mathematics, to facilitate this interconnectedness. (Mathematics should not be characterized as elaborations of set theory, but nevertheless set theory provides a common language for much of mathematics, which is of great value because it facilitates the vital interconnectedness of mathematics.)

This, to my mind, is of the essence of mathematics. It is, as I have said, about the development and unification (or inter-relation) of problem-solving methods, the seeing of problematic possibilities related to actual problems we tackle in life.

Very, very crudely, then, we can say this. A new piece of mathematics will be significant to the extent that it satisfies two requirements:

- (a) it links up to the interconnected body of existing mathematics, ideally in such a way that some problems difficult to solve in other branches become much easier to solve when translated into the new piece of mathematics;
- (b) it has fruitful applications for (other) worthwhile human endeavours.

A new piece of mathematics might well be judged to be significant even though it met only one of these two requirements. If it meets both, all the

better. If it meets neither, its champions will have to struggle to convince their fellow mathematicians that what they are doing is significant mathematics.

Linking mathematics up to the problems it is designed to solve—whether practical or from some other branch of mathematics—is important, both for teaching, and in order to help clarify the nature of mathematics, and what matters and what does not within mathematics.

Conclusion

The transition from knowledge-inquiry to wisdom-inquiry does, then, have fruitful implications for mathematics. Viewed from the perspective of knowledge-inquiry, mathematics confronts us with two fundamental problems.

(1) How can mathematics be held to be a branch of knowledge, in view of the difficulties that view engenders? What could mathematics be knowledge *about*?

(2) How do we distinguish significant from insignificant mathematics? This is a fundamental philosophical problem concerning the nature of mathematics. But it is also a practical problem concerning mathematics itself. In the absence of the solution to the problem, there is the danger that genuinely significant mathematics will be lost among the unchecked growth of a mass of insignificant mathematics. This second problem cannot, it would seem, be solved granted knowledge-inquiry. For, in order to solve the problem, mathematics needs to be related to values, but this is, it seems, prohibited by knowledge-inquiry because it could only lead to the subversion of mathematical rigour.

Both problems are solved, however, when mathematics is viewed from the perspective of wisdom-inquiry.

(1) Mathematics is not a branch of knowledge. It is a body of systematized, unified and inter-connected problem-solving methods, a body of problematic possibilities.

(2) A piece of mathematics is significant if (a) it links up to the interconnected body of existing mathematics, ideally in such a way that some problems difficult to solve in other branches become much easier to solve when translated into the piece of mathematics in question; (b) it has fruitful applications for (other) worthwhile human endeavours.

If ever the revolution from knowledge to wisdom occurs, I would hope wisdom mathematics would flourish, the nature of mathematics would become much more transparent, more pupils and students would come to appreciate the fascination of mathematics, and it would be easier to discern what is genuinely significant in mathematics (something that baffled even Einstein). As a result of clarifying what should count as significant, the pursuit of wisdom mathematics might even lead to the development of significant new mathematics.

A VISION: THE IDEA OF A UNIVERSITY IN THE PRESENT AGE (REVISED)

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The vision: when I speak and think of the university, I have in mind the largest institution, the greatest number of students at all levels, professional as much as academic; graduate and postgraduate, as well as undergraduate.

The curriculum is at its maximum: some 150 subjects/disciplines in which one can garner a PhD. I have in mind, then, the largest public research universities, especially those which (also) educate their students to serve their states in the traditions of Land Grant: including agriculture and the mechanical arts.

While there are ample reasons to describe a private (research) university of fame or privilege as *the* descriptor of the university—say, the top of the pyramid of American universities, an Oxbridge or a Berlin—I think it important for our understanding of the present toward the future to consider the university serving the interests of the widest public or publics. In this setting, I intend to focus on the structure-processes of the institution, but particularly on how the idea of a university will intersect with, even help to define, the nature of the future.



I will therefore use the institution I know best—the University of Minnesota located in that urban cultural oasis of Minneapolis and St. Paul (the Twin Cities)—as example and metaphor. I will propose a new vision in the development of a truly important University of Minnesota: The Study of the Present Age. [1]

Whether this vision might apply to privately endowed universities—we shall see. Whether more than one university will survive?—this we shall also see. Whether Minnesota is metaphor or reality?—time will tell. We all find ourselves afloat in a sea of market-driven forces in this moment of hype and reality of an online Phoenix University and the recently globalized university where the very *idea* of a university is constructed as new products for whatever its markets will turn out to be. I oppose the idea that the market alone will determine the nature of the university.

This vision is simple in its statement. The present University of Minnesota will expand to include and center itself about the Study of the Present Age. A number of Centers will be created which will literally study, discuss, publish in

the contexts of the most important issues of these times. Minnesota will be the place where the changing and continuing world is studied, criticized, shaped.

Primary will be the Center of the Study of Science and Technology as they are developing and changing the very ways in which we operate and think about being: new products, new ideas, even moving our ideas of reality from the world or from texts to whatever virtual will mean: media...and. Other Centers will include the Study of a Sustainable World; Life in the World's Cities; the Changing Nature of Work; Curing and Teaching; Globalization; the Crisis in Meaning; Ageing and Sageing; Integrative Studies. There may be other suggestions.

There will be a Provost or Vice-President who leads this Center for the Study of the Present Age; and there will be an intellectual leader or coordinator as well. All the present faculty of the university will be included within it for perhaps 10–20 percent of their time; to join it at different points, and for varying lengths of time. [2]

The curriculum of the university as it exists at present—especially in the Liberal Arts and Sciences—will (thus) be preserved. The undergraduate students will be educated broadly in the Liberal Arts and Sciences. But they will also be educated to be able to join in discussions in various of the Centers for the Study of the Present Age, at a high critical and intellectual level. To enable this, I propose a pedagogical-dialogic interactive approach to critical thinking. [3]

Centering the university round the Center for the Study of the Present Age, the central and current ideas and disciplines of the university will be preserved, essentially. Otherwise the idea of a university will drift with the winds and currents of monies, politics and, possibly, religion: the worries of permeability of integrity and academic freedom so carefully pondered by Hofstadter and Metzger (1955).

Our students—or, as they now say, consumers or products—will be quite capable in the context of (what I call) an unscripted time,[4] as they will be broadly educated, with an emphasis on critical and creative thinking; able to think-out the world as it happens, and to perform within it at fairly advanced levels. Otherwise, the temptation in a time of great change is to derogate the history of the idea of the university, and to train rather than to educate students for a changing and clamoring market.

The Study of the Present Age can both preserve the sense of the larger curriculum and provide for futurity and, to the extent that we develop an important University of Minnesota, it will also do much to shape that futurity.

I think that the Idea of a University in the Present Age likely will occur in an urban context, which can accommodate and attract the kinds of enterprises and businesses which these Centers will spawn; more than, say, Amherst, Madison, or Ithaca.

The moment seems ripe for the development of this vision. There is a large pool of older faculty-thinkers-wise-persons from around the world who could contribute to such an idea: many

of the more creative minds have been forced to be quite narrow in their work, and would welcome the challenges of broad and critical thinking. [5] Many of them have fairly nice pensions, would require less compensation, and could contract to develop, lead, and contribute to such a global enterprise. They also would be attracted to a cultural center such as the Twin Cities. Many of them could also attract funding and followings in the context of an important University of Minnesota.

Similarly, a number of commercial enterprises would find it important to partake in these critical discussions with us. As we will attract many of the best critics, say, of biotechnology and virtual reality, so various businesses will find it most advantageous to discuss developing and changing issues in the areas of our Centers' concentrations; more reasons to be located in an urban setting.

Early Brief Courses could be presented to entering students: An Introduction to the University; Culture and Technology; a Brief Course on America in company with entering International Students (a speciality of mine). [6]

Education would be directly, perhaps primarily, toward the students being able to enter into discussion in the various Centers at a thoughtful level. As the Centers both reflect and intersect the changing world, the criterion of students entering the conversations would be a good measure of educational quality and utility, enhancing their ability to enter the world as educated and critically thoughtful persons.

The University of Minnesota is sufficiently large to accommodate the

Study of the Present Age, and is quite possibly geared for a large change as it seems to find itself at a moment of declining resources and reputation, a sense that the future is also likely to decline from a formerly great university, to a pretty good one, to...

So: the Vision!

Context and Setting: Gradual changes since the 1950s

As the world is enmeshed in torrents of change, the very idea of the university is also much in flux. Newman's 'winds from the North' (Newman, 1976)—from industrial England of the 19th century—invade both our thinking and the funding of the institutions which until fairly recently seemed somewhat removed from the currents of ordinary life: the Ivory Tower now overgrown with weeds, hanging vines; exposed to the elements.

But it is not only money which offers—or threatens—to alter the university. There is a much larger set of changes which challenge the very idea of a university as it has endured with some centrality and continuity of purpose from Plato's Academy to these times. I am thus cautious about the ideas of the university which we all bring to this discussion.

Some of these changes have occurred fairly gradually, if profoundly. As example, I take it for granted that the university is primarily its faculties and curricula. But most people seem to locate the idea of the university in its organization or administration. And many of the changes of the past generation seem to remain outside our

thinking as they characterize the university as most of us have actually experienced it. Which/whose idea of the university are we attempting to preserve or reinvent?

So this section will be a brief analysis of changes that have already occurred by the time most of us got to experience the university.

The very nature of work is undergoing a change—literally—as great as the Industrial Revolution and the technological developments of the 19th century. The rising power of the sciences and engineering—more recently biology—the decline of the liberal arts, as well as the sense of the importance of a university degree in order to find mostly monetary success in the working world . . . all this has backgrounded ideas of a good, contemplative, educated life, or of the education of the good citizen (almost gone from the modern secular university). Perhaps this is driven much by the fading of the very idea of the nation-state with such vast sums of money passing across the world each day (Readings, 1996).

In the context of work and education, numbers of students who attend the university increased radically during the moment of the maturing baby boomers in the late 1950s and early 1960s. Minnesota, for example, increased its student population from about 17,000 to 35,000 in just four years: 1958–62. The idea of leadership of the university was radically altered in that moment of necessity in managing such multitudes.

Federal and foundation funds increased after World War II, but especially after Sputnik in 1957, paralleling and driving

the vast increases in attendance. Any *community of scholars* as it may have existed prior to that moment in Newman's sense (Newman, 1953), splintered into those areas where there was external funding and those which had none. The Institute of Technology at the Minnesota literally stole the hard sciences from Science and Liberal Arts (SLA) in the late 1950s, and biology went its own ways to affiliate with medicine or agriculture. The two-culture split between sciences and humanities, noted by C.P. Snow already by 1959 (Snow, 1964), persists to this day. Faculties went their own ways. The only common interest or issue, already by 1963, was that of finding parking spaces (Kerr, 1963).

In the 1960s, the rise of grantsmanship further splintered the faculty into individuated entrepreneurs, as careerism gradually replaced vocationalism. And, in the early 1970s, when the expanded and newly created institutions slowed down their expansions, administration consolidated its hold on the university. [7]

I think it was during this period that the structural idea of departments overtook the more conceptual notion of disciplines. Whereas disciplines developed and largely remain the outcome of particular questions, problems, or issues, departments are collectivities whose identity has become largely bureaucratic; places to house faculty whose power and importance are directly related to the size of its budget, more than to any intellectual import of its disciplined-thinking.

Whenever—perhaps especially now—that the society (government,

foundations, especially corporations) wants new or other questions addressed, the *department* has often been found to be intransigent and closed-in. The obvious solution has been to direct research across or among multi-disciplines. But the actuality of multi or interdisciplinary work often disregards or loses the centrality of disciplined thinking, as it often directs itself to externally generated problematics. Current pressures on the idea of a university, then, seem to be largely integrative: trying to construct an administrative soul for a very loose collectivity in which department backgrounds discipline.

While much of this seems obvious and productive, there is often a loss of history and reason for differently disciplined thinking, at least some of which seems to be at the heart of the Liberal Arts. The question of the future of the university surely involves questions of the importance or integrity of disciplined thinking across a vast curriculum. As example, much of botany and zoology have literally been replaced or overtaken by microbiology, the biology of the cell; a form of chemistry which is certainly both important and yielding of monies. But many important questions about humanity and life have simply disappeared, unasked: morphology, taxonomy. Geography, physiology, philosophy seem about to fade, as well.

During the 1960s and 1970s, the very nature of administration changed in what Bruce Wilshire characterized as the *moral collapse of the university* when administrators began reading paper more than judging the quality of their faculties, or asking questions about

knowledge and the meaning of the university (Wilshire, 1990).

During this time, there was also a democratization of the university: first, ethnic Europeans (primarily male Catholics and Jews), then (mostly white, younger) women, and not so many persons of color. While this was a wonderful and democratizing occurrence, I think that these events took notice away from the administrative and bureaucratic changes that were also occurring. One result was that there has been very little criticism of the idea of the university during this period. Another has been the training of most administrators to think of the university as effectively without much sense of purpose: to judge one's own institution with respect to others, more than with respect to some idea of what a university *ought to be and do*.

Another aspect of the democratization was the vast increase in the numbers of students who came to the university, also contributing to its bureaucratization. The notion of a credential gradually began to replace the idea of an education (Kerr, 1991). A degree – any degree – replaced deeper questions of the meaning of an education. As a result, the institution became increasingly opaque to the multitudes of students (parents and community, as well) as the faculty gradually disappeared into their productive modes. [8] The sense of isolation in universities increased markedly for students – perhaps more particularly for faculty.

Visibility and image—as in the media—overtaken the harder work of personal judgment. University presidents began to look at other places a bit better—a bit

worse(r)—to see where their institutions (and careers) were situated (Cohen and March, 1974). This set up and continues to confirm the current pyramid of universities in which reputation largely determines quality, while actual work is done for like-minded colleagues in other places. Little occurs in one's home department or university of any institutional value. Visibility and celebrity have overtaken authority... One could go on.

Related is the rise of the knowledge society in which our Colleges of Education see information, access, and use of knowledge as keys to a good education. Teachers who might purvey wisdom have become managers and facilitators as the importance of education as a profession has dwindled. John Dewey's School of Education at the University of Chicago was phased out recently—placing an apostrophe on an era when we might have had a dialogical interchange with a sage. This is to say that information and knowledge have overtaken education as wisdom has faded from our ideas of the course of a long life: something about the technologization and bureaucratization of life.

All this analysis affirms that the current wonderings about the future of knowledge and the university are set within an institution which hasn't thought too much about questions of its meaning since at least the early 1970s. My concern is that we are asking questions about futurity within a model of the university and knowledge that has been running as much on inertia as substance for quite a while.

The Recent Past

None of this analysis of the depth of change should be understood as a downgrading of any current sense of crisis and sudden change that have been occurring within the university. To return briefly to the vision of the Present Age, it is the pace and directions of change which have moved me to suggest that the central function of the *important* University of Minnesota will be to study seriously the changing nature of these times.

Where to begin? . . . a crisis in meaning (Sarles, 2001). This crisis—first noted by Nietzsche well over a century ago as the rise in 'European nihilism' (Nietzsche, 1968) – has deepened. Television is a prime suspect in which authority has been replaced by celebrity. The pursuit of truth, and that faculty and universities can certify it as such, has weakened considerably. Techniques of revisionism such as *Spin and PR* are by now so common as to be cliché. Fame and becoming a *star professor* is the current measure of competitive *quality*. A much longer story, but central to our concerns.

Here the Internet and email have opened up opportunities for us to communicate easily and rapidly. No paper necessary to communicate all across the world—to develop conferences, to arrange...whatever. The downside is that questions of truth and authority become more in flux. Truth, logic, knowledge, reality?...Whew!

The idea that the world is politics/economics (in either order)—and nothing else—also seems increasingly attractive, and awaits

(new?) theories of global governance, whenever an apparently insatiable capitalism must eventually(!) overstep itself. This, too, is a developing current of postmodernism, in which most left-leaning *neo-neo-Marxists* are searching against, but also for, new directions. Within the context of the meaning of the university, however, the notion that all is politics/economics tends to be undermining. [9]

As I often taught the Sciences and the Humanities course at Minnesota, and as I have that on my mind: whatever ‘postmodernism’ may mean or convey, the rifts between science and humanities have deepened a good deal. I characterize the differences being between the *World-as-Text* and the *Text-as-World*. As technology continues to rise with amazing power, science is backgrounded, and the notion of narrative—that all is *talk about*, but any real-reality is located in texts—seems very attractive.

The rise of religious fundamentalism is related—as such thinkers are actually scholars of religious texts, which they use to determine/specify the ongoing reality: thus, the *Text-as-World*. None of this can be overestimated in its possible powers. The intellectual impact of this is to replace ideas of history and linear development of our being with concepts derived from prophets whose sayings may overtake all of thinking (Sarles, 1999).

The Future

It hasn’t helped that science (thus rationality, and the politics of liberalism and democracy) is increasingly seen as self-serving: scientists working for/with corporations that fund research at universities more cheaply than they could do it. Isn’t everyone for sale? [10]

Aren’t our deans all urging us to apply for grants, never mind questions of integrity? Who can judge quality, anyway? And endowed professorships seem fairly open to those who can pay the prevailing price: professorial stars; or ideologues?

Increasing senses of globality have entered our thinking and actualities. Movements of vast sums of money each day and night have helped blur the conceptual boundaries that we have called nation-states. Bill Readings (1996) wondered poignantly if the Kantian idea of the rational university which would teach the citizen of the rational state is now passé, and its meaning adrift. Where, then, may the idea of a university locate itself?

Relations between structures of economic and social life now rise into contestation, as transnational corporations operate between and around the concepts of nationhood and law. This further destabilizes or blurs our positioning in the world.

Within the recent rise of cosmology, the sense of our being has diminished radically. After a few centuries of forms of humanism which urged us to center our being upon our lives and our experience, we find ourselves in the vast universes of sci-fi and more blurring of

boundaries: in these contexts, between life and death, and the questioning of the meaning of life being determined outside of our very existence. [11]

One more arena of large change in the academy—one which has reflexes of a cycle from the late 19th century. We can note that the amazing concentration upon money as the measure of the quality of life, the developments which drove the ‘Re-Organizing Knowledge’ conference, (where this essay was published) also led in the 19th century to the kinds of biology, evolutionary psychology, and neurology of determinism, which are in increasing vogue right now: then they called it eugenics.

Here again, the temptation to ask questions of meaning of our lives and of the university, are obscured in the excitement of MRIs (magnetic resonance – brain - imaging) and the idea that we are close to finally solving the problem of the human. Evolutionary psychology—by any name—is very similar to the Social Darwinism which accompanied the Gilded Age and Robber Barons of the 19th century. Much of it seems like politics in the name of science, especially if one takes seriously the political applications of eugenic theories in Hitler’s realms. As an increasing portion of our being is being seen as predetermined by our genes, the nature of our actual experience is background and unimportant, or uninteresting...or not-psychology or not-biology.

As money replaces meaning, and the game goes to the most competitive, the notion that these aspects of our being are particularly hereditary becomes first

interesting, then compelling. Education is directed toward success; success determined by the opportunities and fads of each day. And the idea of a university floats...

If the experience of the early 20th century parallels the excesses of the current love-affair with money, here at least there is some direction: some form of retrieve or return to a progressive pragmatism along the lines of thought of John Dewey et al. (Hofstadter, 1992: Chapter 7).

What this presages is an increasing concern with experience and doing, replacing the sense that how we got here is more determining than how we experience and live our lives. And we have to re-earn some of the authority which has so diminished in this era of celebrity and consumerism.

Conclusion: The Study of the Present Age

Much of this analysis of the university and the contexts in which it finds itself, our wonderings about the future of knowledge and of the idea of a university, seem to be as much in flux as one can imagine. It is primarily for this reason that my vision of the Study of the Present Age seems like a good path for solution to the future university. In this essay, I’ve taken the position that the *Idea of the University* remains an important one, both in developing and preserving.

I assume, believe, trust, as well, that there must remain some deep sense of integrity to the institution; that we can and must pursue the truth. I don’t mind the polemics or arguments – at least most of them. The splits between the

sciences and the humanities, and the curses or cries of joy of postmodernism, rifts like those between the notions of rationality which abound in economics, psychiatry, philosophy, and law, seem to me really interesting. I try to study and discuss them.

Except: they get very little public discussion and less awareness. We have tended to retreat into our protective and protected spaces, rather than explore and confront those who are different from us, or those who disagree with us. The politics of academe are not always pretty. But I think that the differences and depths of disciplined thinking remain very important in the human condition. And I remain somewhat confident that disagreements or passings-by can be brokered, understood, sometimes reconciled; but not within the currents of isolation which presently make the university easier to administer or to compete with others.

There are, in fact, several universities within the one that is the University of Minnesota. For example, many of the disciplines promote thinking which depends on case studies and abstracts to generalities later (Law, Medicine, Anthropology, Engineering and in some ways the Humanities often use texts as cases), while others begin abstractly and come to specifics much later (maths, physics, much of biology). In this context, the notion of theory is often used as a bludgeon, a bit of politics attempting to raise the import of certain studies, persons, or claims, while the theorists often relegate the case studiers to lesser status.

It is similar with those who tend toward the analytic and reductionistic *talking*

past their colleagues who are more holistic. In this context, there are palpable cycles whose patron saint may be likened to Humpty-Dumpty. Here, philosophy is presently seen as coming to an analytic impasse, with a call back to a renewed *American Pragmatism*. [12]

We have also been creating institutional distance and disparity between research and teaching, stemming from the 1960s, but continuing. In our recent attempts to distinguish the university from (apparently) competing private and public colleges, we have been playing games with teaching, making it burden more than joy. In the Center for the Study of the Present Age, students will want to study with the best thinkers, not merely seek the easiest or most convenient credentials. Lecturing with Power Point is most often *telling* much more than it is *teaching*.

I have to think that good management can enable us to get beyond the social definitions of whose teaching, thinking, knowledge is more important, simply by virtue of their belonging to a field which is currently prestigious/hot. All of this tends toward the bureaucratic, neither attractive nor intelligible. Vast differences in pay scales represent image and visibility and the incursions of markets, and continue to erode the institution. And this has also contributed to the notion that credentials are more important than education.

Not!—at an important University of Minnesota.

The Study of the Present Age admits/commits to the idea that the world is changing very rapidly and in ways that

we cannot fully understand or penetrate in any moment. The Present Age is a concept that may enable us to grasp the present, and to move it toward the futurity of its students (what parents, community, legislator, businesses really desire--they're running scared for their childrens' futures!). In an unscripted world, the university has to become and remain some sort of anchor.

It is necessary to be the important University of Minnesota, because we have to have (earn and assert) sufficient authority to continue to claim to be persons who profess and pursue truth. It seems OK not to know everything at once . . . if we can show that we possess and continue to pursue the wisdom(s) of this time and of all of time.

The Center for the Study of the Present Age is a concept (soon, we hope, to be a reality) that will study, monitor, critique, and interact with these times. It will engage the entire faculty in a joint enterprise and regain us the sense that we are a community of scholars: in it the distinctions between research-scholarship, teaching, and service will meld into a singular pursuit.

The university must remain open to various communities, inviting them to participate and join us on occasion. Here, I include the global community, perhaps especially those persons of wisdom from the entire world who wish to continue their pursuits in conjoint contexts.

Leadership will be paramount. A central commitment – of the President or Chancellor – is crucial because she or he will have to have sufficient *nerve* to take Minnesota away from the secure

comforts of pyramidal location (a pretty good university—e.g., 3rd best public research university), and to take or support us as we go our own way. Similarly, parents, students, citizens, legislators will have to swallow deeply as we all have to relocate ourselves globally, then locally. And we have to adjust to the conceptual sense that Internet, email, and virtual reality *are* us.

We will have to rethink our ideas of ageing, ageing faculty and the ageing of the developed world with some study of the traditions in which teacher-as-sage is the direction and path of a very good life (Peterson, 1999).

All of this will be done with the integrative sense that disciplined thinking can be done within the contexts of particular ideas, problems, and histories. It is paramount that some of us can explore, broker, and explain the nature of knowledge and the broad curriculum with and to one another.

The Study of the Present Age will preserve the idea of a university by entering the world at a level and in senses where we can do what it is *important* to do, as much in our own terms as possible: call it the pursuit of wisdom in changing times. We do this by studying and critiquing the world as it is occurring: carefully, well, thoughtfully, continually. We will need constructive criticism from the global community—and hope that they will join us frequently in our deliberations.

In this way, we will also be able to preserve, conserve, continue the Liberal Arts and Sciences as they pursue knowledge in their variously disciplined modes and manners. The curriculum is

vast, often competitive, and whether it serves the futures of our students is at much risk in the momentariness of vogues, fads, and ready markets.

I hope that having a Center that pulls everyone together some of the time will enable us to know and to study one another, and to stop much of the splinterings and talkings-past that have characterized the bureaucratization of the university in the past few decades. Careers belong to the ephemeral world and political economies, so we have to reinvent the pursuit of character and of vocation, which will help us to be models for and inspirers of our students.

It is we, the thinkers, the teachers, those of us who attempt to be *real professors* who can attempt to guarantee or underwrite the sense that students' futures can remain hopeful and doable. It is the Idea of a University in the Present Age which is the vision for this coming reality.

Notes

[1] Kierkegaard's principal critique is of the rise of bureaucratic thought and thinking. In this context I have crafted an analysis of the University: "The Nature of the University: Bureaucratization of the Mind and of Knowledge." (ms)

[2] The faculty will also be asked to develop their own—new or renewed—plans for their future work: one-, two-, five-, ten-year projections. Within disciplines and/or across disciplines.

[3] My own thought and work in teaching has been interactive, toward the Deweyan idea of becoming a self-

thinker, an autodidact (see Sarles: "Teaching as Dialogue").

[4] I mean by 'an unscripted time' that the future looms without much certitude about potential or real vocations or careers which the university qua university can train them toward. In a world in which 'temps' are the leading career at present, and even some professions (e.g. medicine) are changing almost daily, it is unclear that the largely historical university can train students and retain any sense of its integrity or reason for being. Much of this discussion hinges about the perception of the pace and depth of changes which we are presently experiencing. I presume that we must educate students to be able to deal with their futurities, irrespective of the university's particularities.

[5] I don't mean that this envisioned university will be a mere retirement haven for ex-academics. Rather, it will draw the very limited number of older persons whom we can think of as master teachers or sages in the contexts of other traditions in the world which have highly respectful wisdom traditions of ageing.

[6] I taught such a course for several years to incoming Foreign Fulbright Graduate students from all over the world, and propose it as a good introduction both to our own history and to global thinking (see Sarles, 1998).

[7] I note with dismay that there are very few (any?) current university presidents who have national intellectual stature.

[8] My metaphor continues to be the curriculum handbook of the University of Wisconsin Madison when our son went there in the early 1980s: 135 pages

of majors and courses and not a single mention of any faculty. Not one!

[9] I usually agree with postmodernists that politics are involved in almost everything, but think that, with ongoing awareness and cultural critique, much of the politics can be overcome; cf., this essay.

[10] Personal communication, Philip Regal, a now retired ecologist at Minnesota, and a close colleague. He was at one time the lead scientist in a lawsuit directed against the FDA to require the Government to label all genetically altered foods...(Oh well!)

[11] In a recent course, I taught 'Philosophy' to a group of middle-school children. I observed that these arenas (stories, movies, videos, games) pervade their thinking, most of it remaining floating and uninterpreted (Minneapolis Metropolitan School).

[12] Donald Davidson, a leading analytic philosopher, made just this point in a series of lectures at the University of Minnesota in 1998: 'The Resurrection of Truth' pointed back to the work of Pragmatists, particularly John Dewey.

References

Cohen, M.D. and March, J.G. (1974) *Leadership and Ambiguity: The American College President*. New York: McGraw-Hill.

Hofstadter, R. and Metzger, W. (1955) *The Development of Academic Freedom in the United States*. New York: Columbia University Press.

Hofstadter, R. (1992) 'The Current of Pragmatism', in Hofstadter, R. *Social Darwinism in American Thought*. Boston, MA: Beacon Press.

Kerr, C. (1963) *The Uses of the University*. New York: Harper & Row.

Kerr, C. (1991) *The Great Transformation in Higher Education: 1960–1980*. Albany: SUNY Press.

Kierkegaard, S. (1940) *The Present Age and Two Minor Ethico-religious Treatises*. Translated by A. Dru and W. Lowrie. London: Oxford University Press.

Newman, J.H. (1953) *University Sketches*. Dublin: Browne & Nolan.

Newman, J.H. (1976) *The Idea of a University: Defined and Illustrated*. Oxford: Clarendon Press.

Nietzsche, F. (1968) *The Will to Power*. New York: Vintage.

Peterson, P.G. (1999) *Gray Dawn: How the Coming Age Wave will Transform America – and the World*. New York: Times Books.

Readings, B. (1996) *The University in Ruins*. Cambridge, MA: Harvard University Press.

Sarles, H.B. (1993) *Teaching as Dialogue. A Teacher's Study*. Lanham, MD: University Press of America.

Sarles, H.B. (1998) 'Explaining Ourselves through Others. Cultural Visions: A Mini Course on America', in J.A. Mestenhauser and B.J. Ellingboe

Reforming the Higher Education Curriculum: Internationalizing the Campus, pp. 135–49. Phoenix, AZ: Oryx Press.

Sarles, H.B. (2010ms) Prediction! or Prophecy?

Sarles, H.B. (2001) Nietzsche's Prophecy: The Crisis in Meaning. Buffalo, NY: Humanity Press.

Snow, C.P. (1964) The Two Cultures and a Second Look: An Expanded Version of the Two Cultures and the Scientific Revolution. Cambridge: Cambridge University Press.

Wilshire, B. (1990) The Moral Collapse of the University: Professionalism, Purity, and Alienation. Albany: SUNY Press.

PERSONAL REFLECTIONS:

The Meaning of Life

By Mohamed Yunus Yasin

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I used to be a slow learner. My teacher told me I was useless. Once she even told me I should give up studies and open up a corner shop. My father used to encourage me. My brother is the genius of the family. He was one of the top students in the country. His A levels (used to be known as the Cambridge HSC) results was one of the best in the world. My dad told me I shared the same DNA as him. He told me I also shared the same 'nurture' as him. He told me he sees no reason that I should be stupid. He told me he will support me no matter what I decide to do. Back then the word dyslexia did not exist in the Malaysian education syllabus.

As I grew, I slowly grew out of my problem. I started doing slightly better in school. But I had a problem with my religious teacher. I found her to be a very angry person. Passing judgement was her favourite pass time. She probably believed she was doing God's work. I told my Dad I do not like religion. He told me not to worry. He asked me to explore what is out there. He asked me to seek the truth. He told me I would be surprised where I would find it. He told me to seek God, but not to worry about finding him, for He will find me instead. My Dad was my Hero. He always had good things to say, although I also got lots of scolding too



when I was naughty.

Then one day I got up during my early teen years. It was a public holiday. It was a nice day. The day was cool and not too humid. My mother asked me to wake my Dad up. I tried to wake him only to find his body cold. He had left me for good, left me without saying goodbye. It was not a good time to lose someone you love, at an age when you are just getting to know them. Where would I go if I needed advice? But he left us a house, mortgage fully paid, and left my Mom with a pension. We were well provided for. He always provided for us.

Many years passed. It is the culture in Malaysia that during Eid (a muslim festival) that the family visits the grave. We kept to this culture. Every morning of Eid - we would go to my Dad's grave, every year without fail. My Dad's graves boundary is demarked by concrete block that surrounds the plot in which he is buried. The boundary is rectangular. It is

small, only about 5 by 3 feet. The centre is filled with white pebbles. It makes the grave looks 'good' and prevents weeds from growing. But it also prevents anything from growing. During the Eid day just before I was to leave for England for my PhD, I notice a small tree growing close to the ground outside the boundary. It was close to where my Dad's feet would be. I was thinking I should pull it out, but I decided to leave it be. I only returned to the grave 5 years later after completing my PhD. By this time I noticed the tree had grown to be quite considerable. Its trunk was close to the bottom boundary of the grave and the tree was leaning toward my Dad's grave. It was almost forming an Umbrella over his grave. When I first noticed this, I was thinking that perhaps this tree will provide shade for my Dad on hot days, and shelters him when it rains. I was glad not to have pulled it out.

This year too - we visited my Dad's grave. It is customary for the men of the family to visit and clean the grave site. But this year I notice something interesting as I approached the site. Firstly, I noticed that the canopy of the tree now seemed to be covering my Dad's grave completely. Secondly I noticed the tree was bearing fruit. As I got closer, I noticed it was a mango. It was a mango tree. The mango would be almost directly over my Dad's head. I did not know it was a mango tree till then. It was a deep realisation. I understood the meaning of life. I remember asking the day he left us 'where would I go for advice?' and on that day he had answered the question that was bearing over my heart and mind for ever so long. And he did not need say a word. He need not smile as he always

did when I asked him stuff. He did not even need to move and I did not even need to see him.

We were ready to leave. I took out my old mobile phone and took a couple of pictures. As I was doing this, we saw the caretaker rushing to us. When he got to us, he said the small white pebbles were disintegrating. He said for a small fee, he would replenish it with new ones. My brother looked at me and I look at him. He is an engineer. He builds stuff. He was the chief engineer that helped built the Kuala Lumpur underground transit system. He probably did not know what I was thinking (actually my mind was blank) and I did not know what he was thinking (this must be an Asian male thing). Then after about 30 seconds, my brother took out 50 bucks from his pocket and – we both told him in almost unison – 'Please get rid of all the pebbles and replace it instead with fresh top soil'. We left. I was, and am still content. My Dad has thought me the most important lesson I will probably ever learn. And I was surprised where I found it. We did not pluck the mango from the tree and left it for the caretaker. My Dad was always a good provider.

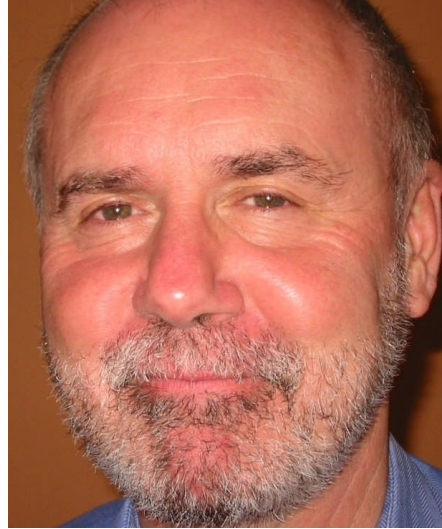


Navigating the Transition:

Equipping Ourselves for the Great Changes Taking Place in the World

By Chris Thomson

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“The world is getting better and better and worse and worse faster and faster”

Tom Atlee

Summary

The world is changing fundamentally, and rapidly. Many people continue to believe that the best way to respond to change and solve our problems is to repair and improve the current system. This is what the G20 seems to believe, for example. However, there is compelling evidence that the system itself (sometimes called “modernity”) is past its sell-by date, and needs to be replaced by a completely new one. But are we ready? Do we really understand the nature of the great changes that are already coming towards us? And are we willing and able to equip ourselves – mentally, emotionally, organisationally,

and socially – to adapt to and prosper in the emerging new world? None of us can afford to ignore these questions, because every one of us will be deeply affected.

A Changing World

There is a growing sense that modern society is simply not working. The evidence for this is compelling:

The natural environment is in serious decline – many of us know about the problems of climate change and pollution and congestion. Some of us know that habitats and species are being destroyed at an alarming rate. But I suspect that very few of us are aware that (according to the World Resources Institute) every life support system on the planet is in decline - i.e. clean air, clean water, forests, topsoil, aquifers, fisheries, wetlands, and biodiversity.

Society itself is in serious decline – in many parts of the world, society is increasingly lawless, stressed and unequal, and seems to have no meaning and purpose, apart from material and financial growth. A lot of people are

suffering the breakdown of family and community, and many of us have lost trust in business and government. Society is threatened by the pressure of population growth, by the widening gap between rich and poor, and by the relentless drive for profit and growth. Social distress is evident even in prosperous regions. Large percentages of the population in the “developed world” are overweight, depressed or unhappy.

There is a systematic transfer of wealth upwards – the rich are richer than they ever have been, while the rest of us fall further behind. The rising tide, it is true, has lifted many boats, but it has lifted the luxury yachts much higher! The massive inequalities within and between nations are unsustainable because they are socially and psychologically damaging.

We are creating a spiritual vacuum – if the recent G20 conference represents the current “world project”, then we are trying to create material excess in a spiritual vacuum. Economic growth appears to be the central purpose of most countries, yet, as Clive Hamilton has written, in *Growth Fetish*, “Growth not only fails to make people contented; it destroys many of the things that do. Growth fosters empty consumerism, degrades the natural environment, weakens social cohesion and corrodes character.” We need very different ways of achieving and measuring social and national wellbeing, otherwise we may think we are doing well, when in reality we are not.

We have created a downward spiral of dependency and incapacity – one of the most disturbing features of modern societies is their increasing dependency

on business, government and experts for goods, services and knowledge that, in many cases, individuals and communities would be better providing for themselves. As a rule of thumb, dependency is unhealthy and self-reliance is healthy. Pre-modern societies were self-reliant, empowered communities. They recognised the central importance of basic human capacities, such as caring, growing their own food, cooking, healing, educating, creating, and entertaining. We need to rediscover these important human capacities.

All these trends are alarming in themselves. However, equally alarming is the fact that we are consistently unable to solve our big problems. They feel intractable, and they keep recurring as “global crises”, despite the time, money and energy that is dedicated to trying to solve them. Many of us sense that the main reason why we are unable to solve our problems, except on a temporary basis, is that we fail to understand and address their deeper root causes. Almost invariably, we focus on alleviating or eradicating the symptoms, while leaving the deeper causes untouched. It is increasingly clear that one of these deeper causes is the system itself. I shall return to this in a moment.

So far, we have been talking about the negative side of the picture. However, there is another, much more hopeful side. In the last few decades, hundreds of thousands of individuals, communities and organisations all have, in their own way, been laying the foundations of the new world. These are the people, often under the radar screen of mainstream society, who have been pioneering new ideas and practices across the whole

spectrum of human activity – economics, healthcare, education, government, business, the arts, lifestyle and spirituality. It has, by no means, been a coherent movement, but many of the new ideas and initiatives have some things in common, such as:

- They have their origin in the belief that the current way of doing things is not working
- They tend to be small-scale, local and participatory. Everyone is actively involved!
- They are often a reaction to the gross materialism and consumerism that characterises the modern world
- They are “people-centred” and “planet-centred”

Examples include the New Economics, holistic and alternative medicine, the huge variety of personal development and self-help initiatives, the emerging importance of consciousness in science, the LETS (local currencies) movement, the Grameen Bank, and the “slow food” movement. And there are countless others. There is no doubt that something big is under way, although this is rarely reported in the mainstream media or discussed in business and political circles. Many believe that what is happening is nothing less than a major paradigm shift from modernity to whatever will replace it. Before looking at what the new paradigm might be, it is instructional to examine the current (dying) paradigm.

The End of Modernity

Modernity is the set of ideas, beliefs, values and practices that had their origin in the Enlightenment and that have shaped the modern world. It has given us all the things that we call “modern”, such as modern economics, modern science and technology, modern medicine, modern education and modern government. It has been an immensely powerful influence and it reaches into all aspects of our lives. Few would deny that, for a long time, modernity made life better and easier for many people. It raised the material living standards of many; it increased life expectancy; it enabled us to address many forms of ill health that had gone unaddressed before; it brought education to the majority; it vastly increased our knowledge of the physical world; it gave us some useful technology; and, in theory at least, it allowed many adults to participate in the big decisions that affect them (modern democracy).

However, something has gone very wrong. We have just come through the most destructive century in human history, with major wars and holocausts on nearly every continent, and devastating abuse of the natural environment. The present century has not begun well. As the 21st Century gets under way, wars are raging in many places, inequality within and between nations is huge and increasing, mental and emotional illness is epidemic, social breakdown is widespread, and nature and the planet are more seriously threatened than ever.

While it is true that many of us are materially richer, we are in some important respects poorer. Many of us have more money and things than we

ever had, yet how many of us are truly happy? A lot of us feel poorer in time and spirit. We receive more schooling and training than ever, yet greed and superficiality are among the hallmarks of modern culture. We have more technology and scientific knowledge than ever before, but we struggle to use them wisely. As Martin Luther King said: "Our scientific power has outrun our spiritual power. We have guided missiles and misguided men." And although we continue to call ourselves "democracies", many of us wonder what the point of voting is when the outcome of elections can be determined in a few marginal constituencies and when politicians ignore the people's views on major issues, such as war.

There is a growing sense that modernity, appropriate for its time, has outlived its usefulness and that the benefits it brings are now outweighed by the problems it causes. *What we have long assumed to be the main solution to our problems may have become their main cause.* Modern economics, medicine, science, education and politics served us well for a long time but they are no longer fit for purpose. The time has surely come to replace modernity with ideas, beliefs, values and practices that are appropriate to the very different conditions of the 21st Century. The time has come, in other words, for a new human paradigm that will provide us with an economics, a medicine, an education, a science and a politics/governance that are kinder to people and the planet. Although it is impossible to say with certainty what the new paradigm will be, we get some useful clues when we look at the origins of the current paradigm.

The Roots of Modernity

Modernity ultimately has its roots in the worldview of modern science. At the heart of this worldview are some (usually unstated) core beliefs:

The universe and everything in it, ourselves included, is physical, and only physical. Science may talk about a universe that consists only of "energy", but they leave little doubt that they believe this energy to be physical

For science, there can be nothing except this physical universe

The universe has no *intrinsic* meaning or purpose

Science has become so powerful and influential that all metaphysical, religious and philosophical claims that contradict it tend to be rejected. Yet if, as science insists, the universe began suddenly for no reason (the "Big Bang") and life on this planet emerged by chance, then the world that science wants us to believe in must itself be totally meaningless. The fact that this statement, as part of that world, must also be meaningless is little consolation! A life without meaning is a bleak life indeed, which is no doubt why millions of people around the world are desperately seeking for deeper, lasting meaning. There is little doubt in my mind that one of the main features of the modern world is *loss of deeper meaning*. This is having far-reaching effects.

The modern world also suffers from *loss of wisdom*. If science rejects the accumulated wisdom of the ages in favour of its own empirically derived body of knowledge, then, since science

is the dominant form of knowledge today, wisdom is effectively devalued. Our modern obsession with having to prove things has marginalised two important aspects of wisdom, namely intuition and common sense. Perhaps we should not be surprised that, with wisdom pushed to the margins, we have become the most dangerous and destructive form of life on the planet.

Thirdly, the modern world is also characterised by *loss of consciousness*. Of course, this does not mean that we are all unconscious, although one might be forgiven for believing this at times. What it means is that working on oneself to become more conscious has become a rarity in modern societies, partly because education in its true sense has largely been replaced by its opposite, schooling, but also because too many people have become over-dependent on “experts” and are therefore not in the habit of thinking for themselves. It is significant that many non-modern (“traditional”) societies place a high value on the exploration and development of consciousness, while this is still regarded as a “fringe” activity in the modern world.

Finally, modernity has led to *loss of ecology*. The few societies around the world that have retained wisdom and deeper meaning know just how important it is to live in harmony with each other and with the planet. How many of us can put our hands on our hearts and say that we truly live in harmony with each other, let alone the planet? The modern world has made many of us desperate and insecure. It is little wonder that we engage in frenetic activity, such as working too much, and shopping and travelling just for the sake

of it, when we should be finding ways to live gently and simply, with ourselves and with the world around us.

The Rise of Economism

When we add together loss of meaning, loss of wisdom, loss of consciousness and loss of ecology, there is not much left going for us. This may be one of the reasons that we now live in an era of unprecedented *materialism*. For many people, acquiring and consuming material things must seem like the only meaningful thing left for them to do. Our economics, our politics, our medicine, our education, our science and our culture have become steeped in material values and beliefs and the behaviours that flow from these. We are paying a high price for this, as we exploit and damage each other and the world. Meanwhile, it is short step from materialism and loss of wisdom to “economism”, one of the more recent additions to modernity.

Economism is the tendency to view the world through the lens of economics, to regard a country as an economy rather than as a society, and to believe that economic considerations and values rank higher than other ones. Economism is clearly evident these days and is a strong influence in business and political circles. It is a very narrow way of seeing the world. It prevents us from seeing whether we are making genuine progress, in a wider, deeper sense. We assume that if there is more money and economic activity (economic growth), things are getting better. In reality, they might be getting worse and our almost religious devotion to economic growth and things economic could be one of the main reasons for this.

The Emerging New Paradigm

All in all, modernity has given us a lot, but it has come at a price. There are now many who believe that the price is too high. Individuals, organisations and communities all over the world are finding their own ways to bring back meaning, wisdom, consciousness and ecology into their lives, and of going beyond materialism. As they do this, a new kind of economics, a new kind of medicine, a new kind of education, a new kind of science, and a new kind of politics are all being created, from the ground upwards, as part of the new paradigm. It is impossible to predict exactly what they will be, but, if they are imbued with meaning, wisdom, consciousness and ecology, they may look something like this...

The *new economics* will be about enhancing people and planet, rather than exploiting them. This will bring with it new kinds of values and relationships, new kinds of businesses, and new kinds of institutions. Some useful indications of how the new economics might look can be found at

<http://www.neweconomics.org/gen/>

and

<http://www.rprogress.org/index.htm>

The *new healthcare* will be about self-reliance and responsibility in health and health-care, rather than about dependence on experts and technology. In the new healthcare, medical treatment may well be the exception rather than the rule, because the main focus will be on staying healthy.

See, for example,

<http://www.holisticmedicine.org/>

The *new education* will be about bringing out the best and uniqueness in each individual, rather than schooling them to believe certain things and to behave in certain ways, which is what usually happens today in our schools, colleges and universities. Useful examples are

<http://www.schumachercollege.org.uk/>

and

<http://www.ciis.edu/>

The *new science* will be about applying the *whole* of the human being to the search for knowledge, rather than just the physical part, as at present. Science of the physical will continue to give us much that is useful. However, in the new science, knowledge of the physical will be complemented by knowledge of the spiritual, and that will make a big difference. A good source of information is the Scientific and Medical Network

<http://www.scimednet.org/>

The *new politics* will be about the return of power to people and communities, rather than having power concentrated in the hands of politicians and the few. At the heart of the new politics are two ideas - the idea that most power stays at the local level, where it belongs, and the idea that everyone has something useful to say and contribute. It is worth looking at New Political Compass

<http://www.culturalcreatives.org/thoughts.html>

and

<http://www.spiritualprogressives.org/>

None of this is to suggest that we throw the baby out with the bathwater. There are many aspects of modernity worth retaining. For example, there is nothing intrinsically wrong with market economics. What is wrong is the set of values and goals that have come to inform it. And there is nothing intrinsically wrong with modern medicine. What is primarily wrong is its belief that it can effectively address the *whole* spectrum of health problems, when in practice it is good at addressing only parts of the spectrum, such as mechanical repair, emergency intervention and infectious diseases. It is the same for modern education, modern science and modern government. Each has useful aspects that are worth preserving, but each is causing at least as many problems as it purports to solve. It is worth adding that the problems caused by modernity are exacerbated by politicians who, with few exceptions, are wedded to *modernising*, which is modernity in the form of government policies. Using modernising policies to try to solve today's problems is rather like trying to use petrol to try to put out a fire.

Equipping Ourselves for the Transition

The problems caused by modernity will continue to get worse so long as modernity remains the prevailing way of understanding the world and of organising our lives and work. We will be able to solve the big problems of our time only when we replace modernity with a set of ideas and practices that are

kinder to us and to the planet. However, this will not be easy. People will not willingly give up the habits and beliefs of a lifetime, and many in power will resist tooth and nail. In fact, if we are honest with ourselves, engaging in the kinds of changes suggested here may be the most difficult thing we ever do. Transformation may seem attractive in theory. In practice, it is usually messy and painful, because it is as much about inner change as outer change.

That said, it makes a lot of sense for us to anticipate, and prepare for, the big changes that seem almost certain to come our way. Broadly speaking this will consist of the following:

- ✓ Understanding, at a deep level, why our current system (paradigm) is not working
- ✓ Learning about the many good new ideas and initiatives that are already under way – bearing in mind that many of these are still under the radar screen of mainstream society
- ✓ Exploring what the essentials of the emerging system (paradigm) are likely to be
- ✓ Making the necessary inner changes (emotionally, mentally, and spiritually) and outer changes (socially, organizationally and culturally) that will enable us to adapt successfully to the emerging new world

All this will mean hard work on our part, because it implies the kinds of personal changes and personal development that

few of us are familiar with. Many of our cherished beliefs, expectations and assumptions will be challenged, as will our habits and behaviour. Nothing will escape the bright light of change. Many of us will need help.

Aim Oriented Empiricism:

How We Might Improve the Aims and Methods of Science, Making it More Rational, Responsible and Far Reaching

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I

How decisively and effectively can humanity move from knowledge to wisdom? Are world's universities ready to move from rationality of Knowledge Inquiry to rationality of Wisdom Inquiry? These questions tacitly acknowledge that science and technology are part of the problem, part of the crises, which the proposed Wisdom Inquiry should be able to address properly. So, what is wrong with science? How can it be improved? The demand for putting Wisdom Inquiry into practice as part of a policy package for the humanity to solve problems of living instead of the problems of knowledge production may be understood in *three* different ways, depending on whether Wisdom Inquiry is meant (i) to run parallel to Knowledge Inquiry or (ii) to replace it completely or (iii) to make science more rational, more objective, more rigorous and more far reaching in its applications by making it "more sensitively and intelligently responsive to the needs, desires, problems and aspirations of human life" (Maxwell 2009, p. 13).



Faced with this trilemma, how do we propose to move from Knowledge Inquiry to Wisdom Inquiry? Any proposal to the effect that we replace one kind of inquiry with another kind will sound revolutionary. But it is not free from its difficulties. The image of science implied by such a proposal is the image of a single boat which is afloat in the sea. When in crisis, the boat is replaced by a new boat. The two boats need not even be remotely connected. There need not be any continuity between them. On the other hand, any proposal to the effect that we may allow them to run parallel to each other will suggest the image of two (or more) boats being afloat in the sea. When one of them is in crisis, we can use the same boat to deal with the crisis-situation. We can also use boats sailing parallel to the one in trouble to cope with the crisis-situation. The dilemma of a single boat *versus* many boats raises the further question: If science and technology (representing Knowledge Inquiry) are

part of the crises faced by humanity, how far can we use them to deal with the crises-situations? For example, can we rely on them in dealing with the current global crises of climate change, ecosystem destruction, species extinction, poverty, terrorism or under nourished children? No simple answer to this question is available. What about the third option?

Nicholas Maxwell (2009) has argued for the third option above. According to Maxwell, the choice is between standard empiricism (SE) and aim oriented empiricism (AOE). Rationality of science, and more generally the rationality of problem-solving human activity, is subjected by him to scrutiny, making standard empiricism (SE) a point of departure. SE is the philosophy of science of not just the practicing scientist but of many philosophers. It assumes that the fundamental task of science is to discover value-neutral factual truth, or at least to improve our knowledge and understanding of factual truth. SE also takes the aim and methods of science not as evolving over time but as rigidly fixed. No surprise, if we find that SE has landed humanity generally and science particularly in the business of knowledge production devoid of Wisdom Inquiry.

Maxwell's book "*What is Wrong with Science?*" argues for the need for a 'revolution', from SE to AOC. The argument develops as a dialogue between the philosopher and the scientist, with other characters appearing only towards the end. The issues covered range over SE, AOE, humane AOE, aim oriented rationalism and person centered science. There is hardly any doubt about the relevance of the book in the context of today's intellectual developments, as

one can see from author's Preface to the 2nd edition. This is particularly true of author's own conception of science, viz., AOE. AOE "subjects the aims, and associated methods, of science to sustained critical scrutiny, the aims and methods of science evolving with evolving knowledge. Philosophy of science (the study of the aims and methods of science) becomes an integral, vital part of science itself. And science becomes much more like natural philosophy in the time of Newton, a synthesis of science, methodology, epistemology, metaphysics and philosophy (Maxwell 2009, ix)." AOE, understood in this sense, represents an ideal conception of science, its aims and methods.

First published in 1976, *What is Wrong with Science?* argues for AOE. The book opens with the author's Preface to the second edition, re-stating AOE, the central thesis of the book. So the book is about problematic science, its misconceived philosophy, its problematic aims and its present failures. The book is remarkable for its timely interrogation of the problematic aims of science from the point of view of AOE and from the perspective of how urgently we need to move beyond to address the global problems faced by humanity. In other words, "The pursuit of scientific knowledge dissociated from a more fundamental concern to help humanity improve aims and methods in life is ... a recipe for disaster. This is the crisis behind all the others (Maxwell 2009, xii-xiii)."

What is it which distinguishes AOE from SE? AOE represents the proper aims of science. Moreover, AOE makes the claim that "science, properly

understood, provides us the methodological key to the salvation of humanity.” Maxwell clarifies this aspect of AOE at the very outset, telling us that its earlier versions can be found in the works of Karl Popper. Popper generalized his falsificationist methodology, applicable to science, in order to develop critical rationalism, applicable to all fields of human activity. While following the same strategy in developing AOE, Maxwell points out where exactly Popper’s conception of science fails. No doubt, Popper shares with many philosophers and scientists, who subscribe to scientific realism, the orthodox view that science aims at truth, or that the basic aim of science is knowledge of truth. The idea of truth plays an important role in Popper’s methodology of appraising scientific theories for their verisimilitude. Thus, along with falsification of theories, the basic method in science is to appraise theories as to how far do they fulfill what science aims at, given empirical evidence.

It is this conception of scientific knowledge – viz., that nothing can be accepted as a part of scientific knowledge independently of empirical evidence – which Maxwell (2009, viii) calls SE. SE, he argues, is not only false but based on a misidentification of the basic aim of science. What one misses in SE is a representation of the following characteristic of the aim of science: “Inherent in the aim of science there is the metaphysical – that is, untestable - assumption that there is some kind of underlying unity in nature. The universe is, in some way, physically comprehensible (Maxwell 2009, ix)”.

The question arises what is the status of this metaphysical assumption. I think that at this point it becomes interesting to explore whether it is possible that this metaphysical assumption is a part of that wisdom which guides science from *within* or whether it is part of tacit knowledge which is not so easily and simply codifiable. This is not an option which Maxwell considers.

According to Maxwell, this metaphysical assumption is an integral part of science, although it is not always stated explicitly. It is a conjecture, although it is untestable. His main reason here is that we cannot *know* that the universe is comprehensible. To quote: “But this assumption is profoundly problematic. We do not know that the universe is comprehensible. This is a conjecture. Even if it is comprehensible, almost certainly it is not comprehensible in the way science presupposes it is today. For good Popperian reasons, this metaphysical assumption must be made explicit within science and subjected to sustained criticism, as an integral part of science, in an attempt to improve it (Maxwell 2009, ix)”. At this point, AOE assumes importance as an alternative conception of science, which subjects the aims, and correlated methods, of science to sustained critical scrutiny. Notice that Maxwell’s argument for AOE proceeds from the assumption that there is a mismatch between the ideal science, or ideally conceived science, and science as we know it from its actual practice, or from its actual consequences, some of which are progressive but some damaging.

II

What is wrong with Science? was originally written in an intellectual climate which was dominated by the popular image of scientific knowledge as power, which could be used to subdue nature. The book can be seen as a notable contribution to a critical understanding of the philosophy of science scenario before and around 1970s, e.g., Karl Popper's falsificationism and its generalized version called critical rationalism (Popper 1934, 1959, 1963, 1972, 1976, 1994). Around 1970s and 1980s there were serious attempts by several philosophers (e.g., by Feyerabend 1975, 1978, 1987) to articulate the limitations and dangers of philosophical abstractions of scientific rationality and to move beyond to the question how we might bring values back in and engage in a socially and culturally sensitive discourse on rationality and the future of humanity. For example, Paul Feyerabend (1975, 1978, 1987) severely criticized the scientific realist view, strongly advocated by Popper (1963, 1972), that science aims at truth. Popper's view that science can make revolutionary progress by subjecting its theories to the falsificationist methodology also came under severe criticism from various perspectives. It is remarkable that around this time Maxwell (2009) passionately developed an argument for person-centred science that cares for 'more fulfilling relationships' between human beings on the one hand and between human beings and nature on the other. Thus, his AOE is also intended to open a line of improvement over Karl Popper's (1963, 1972) critical rationalism.

Now the question arises, how aims of science, whether actual or ideal, can be

articulated or subjected to sustained critical scrutiny before they are improved or chosen and put to use as a resource for methodology. Depending on which philosophy of science one wants to advocate, there will inevitably be a proliferation of proposed aims for science. Therefore, the question arises whether rational choice in this context is possible while we seek improvements in aims and methods, in science and beyond science. Whether it is possible or necessary to extend scientific rationality to everything beyond science?

Already, philosophy may claim to have made some progress in articulating the question what should be the aim of science, given the human condition on our host planet Earth and the urgent need to improve it. For example, it may claim that it has made some progress from Popper's (1972) theory of objective knowledge *without* the knowing subject, itself a bold addition to abstractions in the field of science studies focusing on scientific rationality, to Maxwell's *What is Wrong with Science?* to Feyerabend's (1975, 1978, 1987) anarchistic theory of knowledge, bidding a "Farewell to Reason". A staunch believer in the rationality of scientific revolutions, as he is, Popper makes the choice of an aim for science, among possible aims, his (i.e., scientist's) strategic starting point for arriving at a methodology of science. Once the scientist has chosen an aim for science, he/she can correlate method and aim of scientific inquiry to arrive at a methodology of science, e.g., Popper's own falsificationist methodology. Once a methodology based on the chosen aim for science is in place, one can then appraise rival theories in science by ranking them by asking which one of them fulfills the aim of science best.

From here, moreover, one can then generalize the methodology beyond science, ensuring that the generalized version applies to life as a whole. The same strategy is being followed by Maxwell. Notice how he builds the aim oriented empiricist scientific image of rational problem-solving activity on the basis of the rationality of correlating method of science with the aim of science. For limitations of space, I will not go into the merits or demerits of this kind of approach to the methodology of science. I also do not want to explore how far it is possible or necessary to extend the methodology of science to solving the problems of life.

Thus, both Popper and Maxwell lay great emphasis on the proper choice of an aim for science. They also require that properly conceived rules of rationality, applicable to science, be extended to everything beyond science. This approach has two immediate consequences: First, that every activity other than science could in principle be reduced to scientific activity and, secondly, that every problem-solving activity outside science could be brought within the purview of the rules of rational scientific problem-solving. Consider Maxwell's view (2009, vii) "that science, properly understood, provides us with the methodological key to the salvation of humanity." While pointing out that AOE, "if taken seriously, just might save the world", Maxwell (2009, xi-xii) argues that "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, 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." In other words, nothing short of an intellectual revolution to put Wisdom Inquiry into practice can save the humanity from the present crises, including the global crises of climate change.

The question arises immediately how do we know that science, properly understood, provides the methodological key to the salvation of humanity, whether now or in the future. How do we resolve the dilemma of choosing between the rival ideals for a rigorous, successful and rational science? How does the methodological key promised by AOE ensure a successful movement from knowledge to wisdom? For example, the aims and methods of science may be ideally conceived to co-vary or co-evolve according to the philosophy of science one wishes to advocate. How can we test such a philosophy against the actual scientific practice, and how can we test the latter against the former? To pose this question differently: How can we test the claim that SE, the official conception of science which says that the main aim of science is to improve our knowledge of value neutral factual truth, misrepresents the main aims of science? An answer to this question is available in Maxwell's (2009, pp. 24-26) declaration that SE is a misconceived philosophy of science in the sense that it (i) fails completely to

make rational sense of science; (ii) serves, if anything, to *obstruct* rather than promote scientific progress; (iii) utterly disrupts, dislocates the delicate, harmonious, and humanly valuable relationships that ought ideally to exist between science and people. Having said that, yet he recognizes that science has made progress *despite* its “official, institutional acceptance of standard empiricism, not *because* of it.” But how can we explain this? Here Maxwell (2009, xii) recognizes that “Science has met with such astonishing success because it has put something like aim-oriented empiricism into scientific practice – but this has been obscured and obstructed by the conviction of scientists that science ought to proceed in accordance with standard empiricism – with its fixed aim and fixed methods.”

III

At this point several difficulties start cropping up. *First*, as already indicated above, there is a fundamental difficulty in the suggestion that we can choose the aims for science from *outside* science, from a perspective which may not be shared by the members of the scientific community. How can we choose an aim for science from possible aims from outside science, whatever be the perspective? The rational activity of articulating and choosing an aim for science from possible aims, from variable perspectives, suggests that aims, and correlated methods, can be endlessly debated by philosophers. And among philosophers themselves there may be no agreement on what is the best possible choice, given the alternative aims to choose from. This can of course motivate different philosophies to go on proliferating. And these, in their turn, should result in proliferating aims and

methods. All this may be good for a proper understanding of science and what it can rationally aim at. But still one may ask the question: Is proliferation of aims and methods a priority for improving science or for revolutionizing it? Above all, is this an imperative for the scientists sincerely wanting to solve the urgent problems the humanity is facing? A community of scientists might well argue that instead of engaging in endless philosophical debates on what should science aim at, it is reasonable to give priority to the task of addressing those problems themselves which are universally recognized as problems which humanity is facing, e.g., global warming and climate change. The same difficulties will arise where the philosopher tries to view the problems of life as a whole from the perspective of the aims and methods of science by extending the methodology of science as a key to solving those problems.

This kind of criticism can be met by arguing that without publicly debating the aims of science, or the aims of life, we would not know what is wrong with science. Without self-criticism, scientists would not know where they have gone wrong. Not just philosophers but also scientists and others ought to join the debate on the question how best to put Wisdom Inquiry into practice. Maxwell’s AOE is an attempt to answer this question. But AOE should not be taken to rule out the possibility of exploring alternative models of Wisdom Inquiry.

Secondly, as a corollary to the preceding point, let us not forget that aims and methods also develop deep *within* science itself. Since it is unreasonable to suggest that the aims of science are

rigidly fixed once for all, or that science *essentially* aims at XYZ, it is important to recognize that its aims develop in the course of its historical and methodological maturation. And we cannot ignore those aims which develop deep within science itself. Learning about such aims is part of learning from the history and methodology of science. We may not learn about them from a proposed ideal conception of science. What the world would expect from philosophers and scientists is an enlightened debate on those aims and methods which develop from *within* science, from the very depths of science.

Thirdly, what is remarkable about science is this: Whenever the aims of science which develop from within science receive critical attention, e.g., through public criticism or philosophical scrutiny, science inevitably suffers a displacement in public understanding in the following sense. The scientific image most dear to the practicing scientists themselves is shaken. And it is rendered suspect in the public eye. It is also rendered irrelevant to the larger issues that call for special intervention by science and technology or by science and technology studies, or by Wisdom Inquiry.

I think that this last point can be illustrated with reference to Feyerabend's (1987) insistence on going beyond all the *abstract* images of scientific rationality, urging philosophers and scientists to search for criteria for good science not in the rules of Reason but in the rules of quality of life, harmony and happiness. Science, or any other form of life and activity, should no more be judged by asking how rational it is but by asking how beneficial it is to

mankind. This may also help us understand why as a philosopher Feyerabend chose to advocate epistemological anarchism, which is a way of recognizing that *anything* goes where philosophical legislation regarding science is brought in without regard to the dynamics which is internal to science.

Finally, the question which needs to be debated is whether world's universities are ready for putting Wisdom Inquiry into practice. This and other questions I have just raised may not be answerable immediately. But some of them may be answerable with reference to Maxwell's (1984, 1998, 2004) admirable attempts to restate his AOE more thoroughly and rigorously. All his passionate arguments over decades advocating the need for an intellectual revolution in order to put Wisdom Inquiry into practice share a subtle unity of thought which deserves serious critical attention from the members of public, members of FoW, educationists, policy planners, philosophers and scientists.

REFERENCES

Review of Nicholas Maxwell (2009) *What is Wrong with Science?* Second Edition, Pentire Press: London (first published by Bran's Head Books 1976). Maxwell's central thesis in this book is more clearly and consistently restated in Maxwell, N., *From Knowledge to Wisdom*, Oxford: Basil Blackwell, 1984; Maxwell, N., *The Comprehensibility of the Universe: A New Conception of Science*, Oxford: Oxford University Press, 1998; Maxwell, N., *Is Science Neurotic*, London: Imperial College Press, 2004.

Popper, K. R., *Logik der Forschung*, Vienna, 1934; Popper, K. R., *Conjectures and Refutations*, London: Routledge & Kegan Paul, 1963; Popper, K. R., *Objective Knowledge*, Oxford: Oxford University Press 1972; Popper, K. R., *Alles Leben ist Problemlösen*, Piper: Muenchen/Zuerich 1994.

Feyerabend, P. K., *Against Method: Outline of an Anarchistic Theory of Knowledge* (1975); Feyerabend, P. K., *Science in a Free Society* (1978); Feyerabend, P. K., *Farewell to Reason* (1987). As Feyerabend (1987, p. 17) put it: “my concern is neither rationality, nor science, nor freedom – abstractions such as these have done more harm than good – but the quality of the lives of individuals.” Where the quality of life, harmony and happiness are our concern, Feyerabend reminded us, being beneficial, instead of being rational, should be the criterion both for recognizing a cultural form and for cultural choice.

Watkins, J. (1984) *Science and Scepticism*, Hutchinson: London. Here Watkins argues for a neo-Popperian philosophy of science. See Pandit (1986).

Pandit, G. L., “Rationality of an Optimum Aim for Science”, Review of J. Watkins (1984) *Science and Scepticism*, Hutchinson: London, in *Journal of Indian Council of Philosophical Research* 3(Spring 1986, 141-148). The choice of an optimum aim for science plays a crucial role in Watkins’s attempt to improve upon Popper’s falsificationism and critical rationalism.

What's Wrong With Science? by Nicholas Maxwell,

Pentire Press, London, second edition 2009. Paperback, 290 pp.

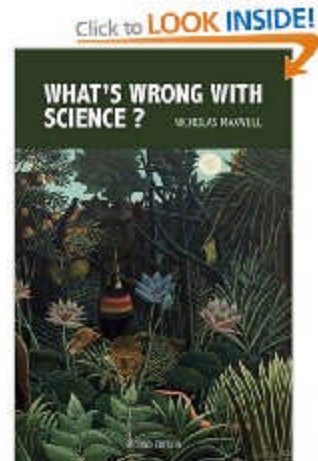
Review by Rafe Champion

"It's very simple: the primary task of the social sciences should be to help us to work out how we might pursue our various personal, institutional, social, political aims and activities in a rather more aim-oriented rationalistic fashion, in a way which seems to be genuinely more desirable for the people concerned."

Thus spake the Philosopher in Nick Maxwell's book.

This book is not especially about the social sciences, it is about the way that widespread ideas about science undermine the capacity of scientists and others to be really helpful and creative in addressing problems of all kinds.

Nick Maxwell has an important message and this book deserves wide circulation. It would not be so necessary if more people had shared Nick's experience. He wrote "I discovered Karl Popper's work when I was a graduate student doing philosophy at Manchester University, in the early 1960s. As an undergraduate I was appalled at the triviality, the sterility, of so-called Oxford philosophy. This turned its back on all the immense and agonizing problems of the real world...Then I discovered Popper, and breathed a sigh of relief".



For some strange reason Popperian critical rationalism and cognate ideas like "non-justificationism" and the notion of objective knowledge have been marginalised and virtually excluded from the mainstream of academic philosophy in the same way as the ideas of the Austrian school of social and economic thought have been kept on the outer in economics and political economy. To my mind, the future of civilisation is at risk due to the contents of introductory economics and philosophy textbooks. But that is a topic for another essay.

Nick has used the dialogue format with a team of disputants headed by Philosopher (himself), the Scientist (the chief target), with the Rebellious Romantic, the (non-rebellious) Romantic, the (left) Liberal, the Rationalist, the Christian and a drunk. I hope that the dialogue mode of presentation will work effectively for other readers. I think it works because the repetition and the presentation of arguments from different points of view should be helpful for people once their interest is aroused. Those who have been through the arguments (or something

like them) many times before may want to reach out and shake the scientist by the lapels of his lab coat.

The book starts with a chapter on "A People's Science", as opposed to a science for specialists. Then a chapter on "Reason Requires a People's Science" because the very notion of reason that is assumed in standard accounts of science is defective. The dialogue starts in the third chapter with "An Angry Clash Between Science and Philosophy" and the Philosopher spells out the problems with "standard empiricism", notably the way it fails to account for the success of science. Incidentally, the Philosopher is quite happy to accept that the burden of blame for this situation falls on the philosophers, not the scientists. So the next chapter is "What's Wrong With Philosophy?". Fortunately the Scientist is an intelligent fellow and he is quite receptive to the Philosopher's critique of philosophy, even to the point of accepting that other people might usefully be encouraged to take notice, over the head or behind the back of the profession of philosophers.

In the next chapter the Scientist actually takes the initiative to knock on the Philosopher's door to continue the discussion. This results in a deal of exasperation as the Scientist appears to come close to understanding, even to the point of providing a good summary of the Philosopher's argument, but then skips away, as though the potato is too hot to handle. The argument becomes more complicated and also more interesting in later chapters when the other dramatic personalities turn up to add their points of view.

Those who are familiar with Nick's prodigious output will not get many surprises from this book although I really liked the lobster pot analogy for standard empiricism (p 72). "Standard empiricism is a kind of intellectual lobster pot: once you are in, you can't get out; you even become unaware that you are caught in a trap".

I have a minor criticism which does not detract from the value of the ideas, it is just that I always thought that Popper more or less took the line that Nick is promoting under the heading of "aim-oriented empiricism. At least that is how I interpreted him, because my own aim was always to combine scientific research with an attack on the most important human problems, especially World Hunger. That was my position when I started my studies in Agricultural Science. Soon I found that the problem was not really about food production, so I moved on to Sociology but that was a mistake, and another story as well.

Anyway, happy reading, and think about getting two copies so you can lend one to your friends! And don't forget the local public library.

Editor's Endnote:

The United Nations summit in Copenhagen left many people feeling disappointed and cheated. The much heralded and anticipated conference between so-called “world leaders” resulted in a vague statement of intent, designed more to prevent the imposition of any measures that might reduce the profits of big business than aimed at solving the growing problem of the human effect on the environment and climate change.

Of course, some of us were not surprised at all by this. It was fairly predictable that the efforts of the politicians of the industrialised countries would be more concerned with preventing real change than seriously addressing this important global problem. Once again the poorer and smaller countries were completely shut out of the debate and decision making processes. Once again NGOs and environmental groups, as well as the needs of billions of people, were simply ignored in favour of the needs of an economic elite, more concerned with the short term satisfaction of egoism and greed than the development of long term, socially just, and ecologically sustainable economic policies.

However, perhaps the most surprising outcome of this summit is that, despite the PR spin of our so-called “world leaders”, triumphing their “success”, which has been disseminated unchallenged and uncriticised by multinational corporation controlled mass media, there is a growing mass awareness of how “world leaders” do not represent the interests of the vast majority of people on Earth. There is a growing awareness that the world's



governments only represent the interests of powerful and wealthy cartels.

Perhaps this growing awareness will lead to a mass consciousness that the real change that we need to see must come from all of us. We need to stop relying on politicians to solve our problems for us. They cannot and they will not. We cannot petition our so-called “leaders” to implement changes that do not serve the interests of their corporate masters. We need to practice what Herbert Marcuse termed “the Great Refusal” and engage in non-participation campaigns against mass consumerism and corporate greed. We need to practice the mass “Turning Away” and develop our own local means of satisfying our needs, raising our consciousness and capacity for cooperative actions, and democratically participate in becoming the change that we wish to see happen.

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