APPRAISAL

A Journal of Constructive and Post-Critical Philosophy and Interdisciplinary Studies

Vol. 3 No. 4 October 2001 ISSN 1358-3336

Editor and Publisher: **Dr R.T. Allen**
20 Ulverscroft Rd, Loughborough, LE11 3PU, England
Tel. and fax: **01509 552743;** ***E-mail:*** **rt.allen@ntlworld.net**
http://homepage.ntlworld.com/rt.allen

CONTENTS

This issue's contributors:

Dr C. P. Goodman is a frequent contributor to *Appraisal*. He hopes soon to begin a major study of Polanyi's political and economic thought.

Dr R. J. Brownhill is Senior Lecturer in the School of Educational Studies at the University of Surrey, was recently also Acting Director of, and Director of Studies in, the Centre for Continuing Education.

Mr Philip Hunt was a Senior Civil Servant (trade and industry) and has been the Chairman of the John Macmurray Fellowship since its inception in 1993.

Dr Konstantin Khroutski is a Senior Lecturer in the Department of Internal Diseases, Institute of Medical Education, Yaroslav-the-Wise Novgorod State University, Novgorod the Great, Russia. He has recently also obtained a PhD in philosophical anthropology.

Dr Jason Borenstein recently received his doctoral degree in philosophy from the University of Miami (FL). Currently, he is a Visiting Assistant Professor in the School of Public Policy at the Georgia Institute of Technology and the Editor of the *Journal of Philosophy, Science & Law* (www.psljournal.com).

Dr Giorgio Baruchello was born in Genoa, Italy, and studied at the local university and at the University of Iceland in Reykjavik. After obtaining an Italian Laurea in philosophy, he worked as a research assistant at the University of Iceland. He is currently undertaking a PhD in philosophy at the University of Guelph, Canada. His main areas of research and publication are are ethics, political philosophy, and ontology, in which he is giving particular attention to the history and implications of the concept of cruelty.

Dr Norman Wetherick was Reader in Psychology at the University of Aberdeen and has published papers on the philosophical aspects of psychology.

EDITORIAL

1 New format

The last two issues were rather thin because of the lack of suitable articles. But now, thanks especially to this year's conference and to our website, we have sufficient material to make up the deficit, with more to come.

March's issue also suffered from defects in printing and several copies had to be replaced, while the price for printing each copy increased. As a result, and without waiting for Volume 4 to begin, we have changed the format so that we can print and bind them ourselves (this is definitely an editorial plural!) in order to keep the cost down, ensure control of quality, and give more flexibility in the number of pages—binding with staples was not effective for more than 52 pages. (Those of you who receive the e-mail version will notice only a change in the layout of the pages.)

2 Subscriptions for Volume 4

*Appraisa*l now completes its sixth year, third volume and twelfth regular issue. Subscriptions for Volume 4 (2002-3) are now due, except for those of you who have paid in advance. Subscribers will find individual renewal forms enclosed with this issue or will receive individual e-mail messages about their subscriptions. Subscription rates remain the same as for Volume 3.

We hope that you will all renew, and do so promptly. Those of you who are on-line, can save at least £6 per volume (and trees and my time!) by changing to the e-mail version if you have not already done so. Yes, reading anything on a computer monitor is not so easy as reading printed pages, but you can always print off any items that you require.

New subscribers are always welcome and a leaflet about *Appraisal* is also included with printed copies of this issue. Please pass it onto anyone who may be interested, and further copies are readily available.

3 Our conferences

We had a very successful *Appraisal/Polanyi* Conference at Nottingham in March, with 15 participants and 6 papers which were discussed in detail. Three of them appear in this issue, and revised versions of the others will appear in the next issue.

Next year's Conference will be at the same venue on April 5th & 6th, and with 'The Person in the 21st Century' as the special theme: see p. 168 and either the leaflet enclosed or the accompanying e-mail message. More leaflets, and posters, are available: please spread the word.

Early offers of papers will be very much appreciated, as also early receipt of fees (to help the cash flow!).

4 Other conferences and contacts

In August I attended the 6th Conference on Persons in Austria, organised by the International Forum for the Study of Persons. These are held alternately in Europe and America every two years. As a result of contacts made there, *Appraisal* will exchange issues with *The Personalist Forum* in America and *Personalism*, a new Polish journal which will appear in English. Also, in the next issue we shall publish some of the papers from the Conference and, later on, devote 'Re-Appraisals' to the American Personalists (Borden Parker Bowne, E. S. Brightman, R. T. Flewelling, Peter Bertocci, etc.) and to Dietrich von Hildebrand.

From the start, *Appraisal* has had extensive contacts with the John Macmurrary Fellowship (JMF). On p. 168 of this issue you will find details of conferences to be held by the JMF, the Collingwood and British Idealism Centre, and the Society for the Promotion of the Critical Philosophy (i.e. a development of Kant's philosophy stemming from Jacob Fries), whose aims and interests overlap with *Appraisal.*

There may also be a Polanyi Seminar in Perugia (Italy) next year: details will sent on when we receive them.

A FREE SOCIETY: THE POLANYIAN DEFENCE

C.P. Goodman

Key Words: Corporate Order Spontaneous Order Span of Control Dedicated Community Private Liberties Public Liberties Transcendent Ideals Value Neutrality Nihilism Moral Inversion Specific Authority General Authority Interpretative Tradition

Abstract:
Polanyi supports institutional autonomy against political control, and advocates free markets rather than central planning. Value neutrality is replaced with dedicated communities, and explicit rules are taken to require interpretative practices. Knowing is situated, but viewed as a source of progress. Attention is drawn to the role played by authority, but the universal values to which he believes a free society ought to be dedicated are identified as transcendent.

1 Introduction

There are four pillars which underlie a free society
(1) Autonomous Institutions
(2) Free Markets
(3) Tolerance
(4) Civic Accountability.

They all serve to disperse power away from the centre. Polanyi believes that it is a mistake to seek to justify a free society only in terms of individual liberty. While he accepts that within a free society the State is not the supreme end of our lives, but is rather a means which facilitates the pursuit of various self-set ends, he reminds us that maintaining a free society requires us to submit to those disciplines which render it possible. Institutional freedom does not imply the freedom to do as we please, but the freedom to act in accordance with those practices which justify our membership. An accredited member of the scientific community for example is subject to an unending process of peer review. The market imposes its own disciplines. It relies, among other things, upon a respect for property. A free society has only a limited toleration of behaviour judged to be anti-social. Even when those with political power are required to account for their decisions, it is not the case that we need only act in accordance with their decisions when we agree with them. We may refuse to accept the beliefs of a group with whom we disagree, we may refuse to buy the products of a company we dislike, we may go out of our way to tolerate behaviour of which we disapprove, but even within a free society acceptance of the authority of the State is compulsory. The State has a role to play in a free society, but its power is such that Polanyi seeks to disperse authority away from it; even when the authority it exercises has a democratic mandate.

When Polanyi, like many others in the Thirties of the last Century, began to direct his attention to political questions, the fashion then, as now, was to seek to extend the power of the State. Those who advocated limiting its power were despised as reactionaries. It is clearer than ever however, that it is the *bien pensant* supporters of Stalin and Hitler in that decade, not the defenders of a free society, who merit our contempt. It is tempting to conclude that as a result of economic and military success, it is the vision of a free society which Anglophile liberals such as Polanyi defended which has triumphed: and in a real sense that would be correct. The appeal of authoritarianism is too great however for it to disappear. As long as there are communities, the opportunity will be taken to impose dogmas, as long as there are politicians, attempts will be made to direct our choices within the marketplace, as long as there are moral convictions, there will be efforts to force us to act in accordance with them, and as long as there are positions with power, there will be opposition to public scrutiny. The defenders of a free society will always have to fight both (1) the tendency of public institutions to be used for private ends, a constant temptation for bureaucrats and (2) the conviction that we know best how others should live their lives, a constant temptation for intellectuals. For Polanyi however a free society is not value neutral. On the contrary, he defends it as a vision of the good.

A free society for Polanyi is a means for pursuing universal values. The absence of any pursuit of such values, either because we believe that we have already comprehensively established them, or because we believe that any such quest is illusionary, undermines its justification. Indeed those who seek to undermine a free society—religious fundamentalists and totalitarians for example—do so precisely on those grounds. Why have a free society? For Polanyi freedom is necessary because universal values transcend our conception of them. A free society enables us to pursue transcendent ideals. It gives us the liberty to realise them. A classical liberal might respond that by allowing the possibility that progress can be made in the pursuit of values, Polanyi fails to take into account either the diversity of our choices, or the argument that the freedom to make choices about values is not a means but rather an end in itself. For Polanyi however the freedom to make choices is not an end in itself, it is a means. Attempts by liberal theorists to establish rules for political practice independently of any conception of values, suc-

ceed only if we accept them. But in the absence of an appeal to values, we have no reason for accepting them; no more reason than those provided by thinkers, such as Kojeve and Heidegger, who sought to defend Stalin and Hitler. It is not on the grounds of an appeal to value neutrality, but on the grounds that freedom gives us the liberty to realise transcendent values, that Polanyi defends a free society.

2 Freedom of thought

In 1935 Michael Polanyi, who was regarded as one of the leading theoretical chemists of his generation, while on a visit to the Soviet Union was told by Bukharin, at that time the chief theoretician of Soviet Communism, that

> under socialism the conception of science pursued for its own sake would disappear, for the interests of scientists would spontaneously turn to the problems of the current Five-Year Plan[1]

Polanyi came to regard this as a key personal turning point. In order to substantiate his opposition to the position taken by Bukharin, he began to turn to philosophy. Melvin Calvin has written that:

> When I first met Michael Polanyi in Manchester in 1935 he was well into a second career...Towards the end of my stay there, in 1937, it got so it became difficult often for me to talk with him because he was thinking in terms of economics and philosophy.[2]

In 1948 the University of Manchester responded to this change of direction by setting up a personal chair for him in Social Studies. Given the traumas of that period, it is not surprising to find intellectuals reflecting upon social questions. What is a surprise is to discover some philosophers sneering at Polanyi because he sought to address such questions.[3]

What disturbed Polanyi about the policy defended by Bukharin, which in Britain was being advocated by writers such as J.D.Bernal[4], that scientific research ought to be subordinated to the demands of human welfare, was its denial of the importance of freedom of thought:

> In Marxism a distinction between pure science, which seeks to find the truth for its own sake, and the application of science to practical purposes is not admitted, because all intellectual processes are assumed to be equally determined by the mode of production of the material means of life.[5]

Polanyi however viewed science as a community of inquirers who share a common belief that they can discover truths about an objective reality. Because scientific research advances in unpredictable ways, the imposition of welfare tasks would only serve to destroy it: not least because the practical benefits of any discovery are accidental, and therefore doubly unpredictable. In order to flourish a scientific community needs the freedom to pursue its own ideals. He then extends this analysis into a more general defence of freedom of thought:

> I mean the whole spiritual realm of truth, justice, humanness, beauty, and its organisation in the form of laws, politics, moral customs, arts, and religion. The same reasons which cause science to be paralysed by any imposition of secular authority make all the wealth of this realm turn to dust the moment it is made subject to the demands of the State.[6]

It was the coming to power of the National Socialist Party which had forced Polanyi to resign his chemistry chair in Berlin. His visits to the Soviet Union confirmed his impression that, in their enthusiasm for central planning, intellectuals were ignoring liberal arguments about limiting the power of the State:

> The Marxist doctrine of social determinism, and the kindred teachings of Fascism, which claim that thought is the product of society and ought therefore to serve the State, remove all ground on which to consolidate an authority to which man could justifiably appeal against the commands of the State.[7]

As an undergraduate Polanyi, together with his brother Karl, was a founding member of the *Galileo Society*—an influential Hungarian student association dedicated to the promotion of science and social reform. The conservatism of the Austro-Hungarian establishment led many intellectuals to desire radical political change:

> When I was a boy...I used to cherish great hopes for a new world organised by science. At that time...I was a great reader of Mr Wells's novels. I devoured them almost as they came from the press in England. They made me impatient with traditional statesmanship and I firmly determined to follow Mr Wells in sweeping aside all this gimcrack world—as he thought it was—putting in its place a new world on scientific lines.[8]

But instead of supporting the demands for greater central planning, Polanyi sought to promote human advancement by preserving the autonomy of the institutions that make up a civil society.[9]

Polanyi argues, however, that a doctrine which objects to every intervention by the State, on the grounds that a free society ought to be morally neutral, is contrary to the principles of civilisation:

> The fact that certain individual actions are under public protection does not characterise them as private affairs...Public protection should, as a rule, be given to such individual actions in which there is a real public interest to preserve…not in disregard of the action's social consequences, but precisely because of them.[10]

According to Polanyi the defect of a wholly private conception of liberty, is that it neglects the social dimension of our actions. The defect of a wholly public conception of liberty on the other hand, is that we give up our freedom to the State.[11] Any action with social consequences becomes subject to political approval. To assert for example that truth is a universal ideal that transcends the State is to undermine the supreme authority of the State.[12] Polanyi however asserts that truth does transcend the State, and that communities dedicated to its pursuit therefore require the freedom to pursue their work free from political control. To do biological research for example, it is necessary for biologists not to have their work subject to political approval. This is then extended into the claim that just as scientific communities are brought into being by the shared belief that it is possible for us to discover truths about the natural world, so free societies are brought into being by a shared belief that universal ideals transcend the purposes of the State.[13]

3 Polycentric orders

According to Marx in a society that serves all its members, rather than the interests of the owners of capital, the market system would be replaced by an economic system based upon need. In his earliest published economic study *USSR Economics—Fundamental Data, System and Spirit*[14] Polanyi was one of the first commentators to notice that, as early as 1921, the attempt in the USSR to replace what Marx had described as a 'commodity market'—i.e. an economy which produces for the market—with one based upon production for 'direct use' had to be abandoned. In the 'New Economic Policy'—which replaced what was then re-labelled as 'War Communism'—the market system was not rejected, but supplemented with production targets. Polanyi noted that Soviet planning had in practice largely become a matter of forecasts handed to State owned enterprises, with instructions to perform a few percentage points better than the previous target. Instead of focusing upon the way in which central planning undermined freedom,[15] Polanyi thus sought to deny that a central authority could successfully direct a complex economy:

> Rarely does one find this pointed out. Leon Trotsky is one who placed it on record. In 1918-20 he himself had been the protagonist of a rigorously centralised system. But later, chastened no doubt by its disastrous results, he declared that it would require a universal mind as conceived by Laplace to make a success of such a system.[16]

In the *Logic of Liberty*[17] Polanyi makes a link between the problems which confront the planner who, in pursuit of human welfare, attempts to control the development of science, and the problems which confront the planner who, in pursuit of human welfare, attempts to control the development of an economy. According to Polanyi both are polycentric system[18] whose order is generated spontaneously via interactions between a number of centres. The concept of a Spontaneous Order has its origin in the claim made by Bernard de Mandeville in his *Fable of the Bees* [1705] that if individuals pursue their own desires, they will unintentionally generate an order which maximises the number of satisfactions within a society. This analysis was then further elaborated by Adam Smith, who used it to undermine mercantilism—i.e. government directed mercantile policies—on the grounds that direction by the State distort the more efficient process of the market. Marx asserted that a free market system generates alienation and exploitation. His followers therefore sought to replace it with a system of centrally planned production for direct use. In 1922 however the Austrian neo-classical economist[19] Ludwig von Mises wrote an article entitled 'Economic Calculation in the Socialist Commonwealth'[20] which set off what became known as the Socialist Calculation Debate.[21] According to Mises in the absence of free market pricing, central planners would not have the information which would enable it to rationally allocate resources.

Oskar Lange[22] responded to von Mises by arguing that once central planners had established producer prices, all other prices could then be set by the mechanism of market exchange.

> Underlying this judgement was an assumption that, since markets were always imperfect in reality, a socialist economy might actually be able to come closer to the models of neo-classical economics...A central authority armed with the insights of neo-classical economics should be able to design a market system which would improve upon the unplanned market orders that had grown up under capitalism.[23]

This defence, although it concedes that markets, money, and commodity production are indispensable features of a modern economy, something which Marx denied, convinced many that Mises had been refuted. In the *Logic of Liberty* however, Polanyi argues that no central agency can cope the number of mutual adjustments which a complex economy requires. To justify this claim, he compares two alternative orders. In the hierarchy of what he described as a Corporate Order all, with the exception of a supreme authority, are assigned their tasks by an immediate superior. Some autonomous mutual adjustment between its members takes place, but this is limited. If actions were primarily determined by autonomous mutual adjustments, this would undermine the workings of a Corporate Order.

Polanyi then demonstrates that with increases in size the span of control—i.e. the number of adjustable relations—within a Corporate Order continues to be small, but the span of control which autonomous mutual adjustment renders possible is potentially infinite.

It thus follows that there is a level of complexity at which only a system based upon autonomous mutual adjustment can cope. The reason why it is not possible centrally to plan a developed economy is not, as von Mises argued, because if we are to rationally allocate resources we need the prices generated by a free market, nor is it as Frederick von Hayek was to argue, because the information which central planners require exists only within dispersed practices. It is rather because the adjustments which underlie the possibility of a modern economy exceed the span of control of any possible central agency. Even if we had the information which free market prices supply, even if we knew all we needed to know about the practices in an economy, for the effective operation of even a modestly complex economy, the number of decisions would exceed the capacity of any central agency to deal with them. In response to the charge, made with added force during the economic dislocations of the inter-war years, that free market systems are unreliable because they are prone to depressions. Polanyi in *Full Employment and Free Trade*[24] defended the argument set out by Maynard Keynes in *The General Theory of Employment, Interest and Money*[25] that too high a level of saving reduces the level of demand below that which is sufficient to sustain full employment. He thus agreed with Keynes that in a depression, governments ought to stimulate the economy by increasing aggregate demand.

The supply-side critics[26] of Keynes have responded that in the long term it is not possible to reduce unemployment by stimulating the economy; because if a stimulus to the economy decreases unemployment below the natural rate—i.e. the rate consistent with longer term stable prices—this will generate inflation, which will eventually increase unemployment. In other words there is an underlying or structural rate of unemployment which, in the longer term, it is only possible to reduce by making supply-side changes in production costs. As Samuel Brittan points out however, there are almost no practising economic advisors who believe that an economy ought to be left to approach an underlying equilibrium on its own. It can be knocked off course by events such as sharp increases in the price of oil, or the consequences of funding German reunification. Most contemporary economists in other words accept that monetary policy has a role to play in the fight against both inflation and depression.[27] Although Polanyi saw himself as a Keynesian, his contribution was characteristically original. He asserted that low demand increases unemployment, and that in these circumstances the 'deflationary gap' between savings and investment ought to be bridged by stimulating the economy. But he rejected the arguments of those who argued that governments ought to spend their way to higher employment.[28] He also warned about the inflationary dangers of too great an expansion in the money supply, and the futility of seeking to control inflation by imposing price controls. Nor did he accept the view that there is no trade-off between unemployment and inflation, i.e. that monetary expansion should take place regardless of the consequences for inflation.

4 The value of freedom

As an alternative to the view that planners, in the pursuit of human welfare, ought to direct society from a single centre, Polanyi postulates the concept of a Supervisory Authority. A Supervisory Authority presupposes that human activities will be initiated from a great multitude of centres, and is concerned only with securing general conditions for independent action. Polanyi however makes a distinction between the spontaneous order which occurs as a result of individuals seeking to pursue individual interests, and the order which is generated when individuals seek to adjust their actions in accordance with the pursuit of universal ideals. The weakness of economic liberalism, for Polanyi, is its presumption that a market system can be applied to all human relationships. If we defend the need for a free society solely on the grounds of an appeal to the sovereignty of the individual, we end up by depriving liberty of any moral conscience, giving support to those who turn to the State as the only guardian of public goods. The notion that a market system promotes selfishness, instead of promoting common needs, renders collectivism appealing

> While it is true that private matters deserve protection, I consider that the alternative to the planning of cultural and economic life is not some inconceivable system of absolute *laissez-faire* in which the State is supposed to wither away, but...freedom under law and custom as laid down and amended when necessary by the State and public opinion, which ought to govern society in such a way that by the guidance of their principles the energies of individual exertions are sustained and limited.[29]

Polanyi argues that a free society is not an 'Open Society'[30] it is a community dedicated to public liberties, on the basis that they facilitate progress towards transcendent ideals. He does not defend freedom as an end in itself, nor does he defend freedom by arguing that we have a right to pursue our own conception of the good. His defence of a free society is not derived from the conviction that the State ought to be value neutral; it is derived from his assumption that our judgements about the world are fallible. According to the economic liberals Frank Knight, the father of the Chicago School in economics, and James Buchanan, the founders of the Virginia School of Public Choice, political life is best understood as a debate about how best to balance rival visions of the good. They seek to limit the power of the State on the grounds that a free market system is the best way of satisfying a plurality

of different visions of the good life. Knight takes Polanyi to be arguing that the highest form of freedom is not individual liberty, but liberation from individual ends via a submission to universal ideals. His response is to claim that the primary task of a free society ought to be the protection of individual liberties.[31] Buchanan remarks that a conception of politics rooted in the quest for truth

> lends itself, more or less naturally, to what amounts to an attitude of basic intolerance on the part of those who hold that certain political 'truths' have...been discovered.[32]

But truth for Polanyi is a transcendent ideal. As Paul Craig Roberts notes, the pursuit of scientific inquiry

> is not characterised as an advance from certainty towards certainty, but by the entanglements of truth and error...Progress in science is seen as a move from a position felt to be too problematic to another position that is found more satisfying.[33]

The argument that a free society ought to be neutral about values, draws upon a liberal tradition which dates back to at least John Locke, who in *A Letter Concerning Toleration (1689)* declares that

> the business of laws is not to provide for the truth of opinions but for the safety and security of the commonwealth, and of every particular man's goods and person.[34]

More recently Berlin has sought to defend a free society on the grounds that incommensurabilities among our values have the consequence that we shall never be able to agree upon the character of a good life.[35] Roberts points out however that a free society does have a vision of the good

> A free society can be accurately defined only in terms of its commitment to a set of beliefs that uphold freedom.[36]

To understand this claim it is helpful if we look at the historical summary which Polanyi provides in Chapter 7 of *The Logic of Liberty*. Anglo-American liberalism, he suggests, was first formulated in opposition to religious intolerance. In the *Areopagitica* Milton asserts that freedom from authority is required so that truth may be discovered. To this Locke added the argument that because we can never be sure of the truth in religious matters we should refrain from imposing our views.[37] Polanyi however responds that this latter argument carries within it the implication that we should refrain from imposing beliefs that are not demonstrable

> But of course, ethical principle cannot be demonstrated. We cannot prove the obligation to tell the truth, to uphold justice and mercy. It follows therefore that a system of mendacity, lawlessness and cruelty, is to be accepted as an alternative to ethical principles on equal terms. But a society in which unscrupulous propaganda, violence, and terror prevail, offers no scope for tolerance. Here the inconsistency of a liberalism based upon philosophical doubt becomes apparent.[38]

Polanyi claims that the potentially destructive implications of a liberalism secured by the argument from doubt, was avoided in Britain and America, by a reluctance to pursue theoretical premises to their logical conclusion. Some intellectuals however began to explore the implications of the argument that it is not possible to justify moral standards.[39]

In his novel *Fathers and Sons* Turgenev describes a new figure, the nihilist, who on the basis of a dedication to materialism combines contempt for existing society with a rejection of moral values:

> In such men the traditional forms of holding moral ideas had been shattered, and their moral passions diverted into the only channels which a strictly mechanistic conception of man and society left open to them. We may describe this as a process of moral inversion.[40]

Marxism served to channel the moral fervour released by the secularisation of Christian hopes in those who could only allow themselves to believe in materialism. Fascists, who denounced all humanitarian ideals as dishonest, channelled their moral passion into a cult of naked power:

> It is a mistake to regard the Nazi as an untaught savage…His contempt for humanitarian ideals has a century of materialist schooling behind it. It goes back to the same origin as Marx's hatred of moral arguments—and for that matter, Nietzsche's similar hatred of morality. The Nazi disbelieves in public morality in the way we disbelieve in witchcraft.[41]

Instead of advocating value neutrality, Polanyi defends a free society on the grounds of its dedication to the pursuit of transcendent ideals. But if a free society is a dedicated community, how are its judgements established? In order to answer this question Polanyi uses the way in which decisions are arrived at within the scientific community as his model.

5 The republic of science

Polanyi argues that independent initiatives by members of the scientific community generate a spontaneous order which is unpremeditated by any of its individual participants. Because it is a dedicated community, the initiatives which generate this order are assessed with reference to standards. Members first decide whether or not a contribution has a sufficient degree of plausibility to merit attention. Then a decision is made about whether or not it has any scientific value, this value being a co-efficient of accuracy, systematic importance, and intrinsic interest. Finally, questions are asked about its originality. These judgements are made within the context of unending debates between net-

works of specialists:

> Scientific opinion is an opinion not held by any single human mind, but one which split into thousands of fragments, is held by a multitude of individuals, each of whom endorses the others opinion at second hand, by relying upon consensual claims which link him to all the others through a sequence of overlapping neighbourhoods.[42]

In *Science, Faith and Society*[43] Polanyi claims that science is not the product of following abstract rules, it is that which is generated in the interplay between individual participants and the authority of a general consensus. While a Specific Authority imposes every major decision from the centre, a General Authority is the consensus which emerges among the members of a community. Although some members of a community have greater influence than others, innovation takes place at growing points dispersed throughout the community.

A view popular, then as now, among scientists, is the claim that scientific laws are inductive generalisations from observation data, from which empirically testable predictions are deduced. For Polanyi however no rule can locate, among the infinite number of numerical relationships that exist within measurement data, the function that describes a scientific law.[44] Nor is there a rule that can determine when to uphold, and when to abandon, a scientific theory when confronted with opposing evidence.[45] Polanyi asserts that relying upon assumptions, and guided by clues, an innovator (in a manner akin to the pattern recognition abilities investigated by Gestalt psychology) integrates data in the hope of discovering an order that tokens a real structure. Innovations are then assessed not with reference to abstract rules, but in accordance the judgement of specialists, in an art embodied within an evolving tradition:

> Being incapable of precise formulation, rules of art can be transmitted only by teaching the practice which embodies them…How can we ever interpret a rule? By another rule? There can only be a finite number of tiers of rules, so that such a regression would soon be exhausted. Let us assume then that all existing rules were united into a single code. Such a code of rules could obviously not contain prescriptions for its own reinterpretation.[46]

Scientific research, in short, does not take place in isolation. It takes place within the norms supplied by the General Authority exercised by members of the scientific community.

Imre Lakatos argues that by making the scientific establishment the ultimate judge of what is good and bad science, on the grounds that no statute law exists which can serve as a universal criterion for any normative appraisal, Polanyi is in effect defending an 'élitist' philosophy of science.[47] In this account laymen are not allowed to appraise scientific theories, because only a skilled élite has the requisite tacit knowledge that underlies scientific judgement. His response to Polanyi is to argue that while it may be the case that articulated knowledge is only the tip of an iceberg, this is where rationality resides:

Elitism (like scepticism) thrives on the defeats of earlier versions of the demarcationist programme. The downfall of classical inductivism, the apparently incurable poverty of neo-classical inductive logic, the recent degeneration of falsificationism, and finally the need for external explanations to resolve some historiographical anomalies in the methodology of scientific research programmes, have all helped the propaganda for the elitist claim that no universal criterion of scientific progress is possible. Elitists generally ascribe the failures and anomalies of demarcationism to the disregard of the tacit dimension. But elitists should remember that demarcationists may lose a few battles and still win the war.[48]

Lakatos associates 'elitism' with four 'abhorrent' doctrines

1) **Psychologism—**The appraisal of producers rather than products.
2) **Authoritarianism—**The claim that only insiders are qualified to judge.
3) **Historicism—**The idea that history has a logic which delivers truth.
4) **Pragmatism—**The belief that truth is settled by the biggest battalions.

Toulmin notes, however[49], that towards the end of his life Lakatos came to regard the claim that there are universal and immutable statute laws that can distinguish between good and bad science as illegitimately a prioristic:

> Until now all the 'laws' proposed by the *apriorist* philosophers of science have turned out to be wrong in the light of the verdicts of the best scientists. Up to the present day it has been the scientific standards, as applied 'instinctively' by the scientific *elite* in *particular* cases, which has constituted the main—although not the exclusive—yardstick of the philosopher's *universal* laws. But if so, methodological progress, at least as the most advanced sciences are concerned, lags behind common scientific wisdom. Is it not then hubris to demand that if, say, Newtonian or Einsteinian science turns out to have violated Bacon's, Carnap's or Popper's *apriori* rules of the game, the business of science should start anew? I think it is.[50]

In his early work on the methodology of mathematics[51] Lakatos gave a crucial role to the collective judgements of mathematicians. For some reason however he was slow to apply this approach to the methodology of the natural sciences. Toulmin speculates that his reluctance was due to the controversy sparked off by Thomas Kuhn's *The Structure of Scientific Revolutions*.[52] For Kuhn what he describes as 'normal science' takes place within disciplinary ideals or 'paradigms' that regulate scientific practices. Training to be a scientist involves mastering textbooks, which

rely upon model problems and solutions to inculcate within students a particular way of viewing the world. Paradigms however accumulate anomalies, and may eventually lead to the creation of a new paradigm, which give rise to periods of 'revolutionary science'. Kuhn argues that the shifts in the paradigm which occur during such a period resemble Gestalt shifts, in that they create new ways of looking:

> the proponents of competing paradigms practise their trades in different worlds. One contains constrained bodies that fall slowly, the other pendulums that repeat their motions again and again...Practising in different worlds, the two groups of scientists see different things when they look from the same point in the same direction.[53]

According to Kuhn the 'normal science' which emerges from a scientific revolution is not only incompatible, it is often incommensurable with what has gone before. Different paradigms rely upon different world views; no formal argument therefore may be able to convert a scientist from one paradigm to another. Although Kuhn acknowledges that Polanyi influenced him,[54] *The Structure of Scientific Revolutions* has relativist implications that are inconsistent with a pursuit of universal values. Accepting that no formal argument may be able to convert a scientist from one paradigm to another still leaves us with the problem of accounting for how the process of scientific change takes place.[55]

6 Conclusion

Polanyi supports institutional autonomy against political control, and advocates free markets rather than central planning. To this extent he is a liberal. Polanyi replaces value neutrality with dedicated communities, and asserts that rules require interpretative practices. To this extent he is a communitarian.[56] Polanyi defends liberty on the grounds of an appeal to progress. He takes knowledge to be an instrument of reform. To this extent he is progressive. Polanyi seeks to constrain the liberty of the individual by defending the role played by authority. He situates, and thus limits, our understanding of the world, advocating the transcendent nature of our values. To this extent he is a reactionary. As is usually the case with Polanyi you cannot attach a philosophical label to him, in this case liberalism, without the addition of significant qualifications. The reason for this is clear. He begins with existing practices, in this case the functioning of a free society, not abstract theories. As a result his conclusions are often difficult to classify. But they have been influential. In 1947 Polanyi was one of the founding members of the Mount Pelerin Society

> a group of 39 persons...called together by Frederick von Hayek to exchange ideas about the nature of a free society, about the dangers to its survival, and about the ways and means of strengthening its intellectual support.[57]

Hayek, like Polanyi, came to make an unfavourable contrast between the order created by planning—which he calls a taxis—and the order created by a market—which he calls a catallaxy—arguing that central planning disrupts the more efficient workings of the market; which by relating a plurality of ends with a scarcity of means integrates the disparate practices which make up a modern society into a common order. The harm caused by disturbing the spontaneous order which markets generate becomes the ever more central theme of his later works, from *The Constitution of Liberty*[58], and the three volume *Law, Legislation and Liberty*[59] to his last work *The Fatal Conceit*[60]. In this latter study Hayek notes that

> I confess that it took me a long time from my first breakthrough, in my essay on *Economics and Knowledge* (1936), through to the recognition of *Competition as a Discovery Procedure* (1978) and my essay on *The Pretence of Knowledge* (1978), to state my theory of the dispersal of information, from which follows my conclusions about the superiority of spontaneous formations to central direction.[61]

The argument that only a market order is able to utilise the tacit knowledge dispersed among the various practices of a society is often cited as one of Hayek's 'most original and important ideas'.[62]

Because Hayek derived the phrase 'spontaneous order' from Polanyi[63], some commentators have acknowledged the existence of an intellectual influence. John Gray suggests that

> The Polanyian element which enters into Hayek's work from at least the fifties consists, first of all, in the refinement of his view of knowledge as *au fond* practical, and his exploitation of Polanyi's insight that, since much of the knowledge we use is inarticulate, we always know more than we can ever say. In *The Constitution of Liberty* and elsewhere, this insight gives a wholly new twist to the argument for liberty from human ignorance. It is not just the fact that our knowledge is extremely limited that supports a regime of liberty...Rather, a regime of liberty permits knowledge to be used which we never knew...we had.[64]

Hayek, like Polanyi, claims that only a market system can cope with the complexity of a developed economy. Unlike Hayek however, Polanyi takes the spontaneous order which a market generates to be a reduced form of the mutual adjustment which takes place within a dedicated community.[65] Whereas the coordination of individual efforts which takes place within a market order is only motivated by financial gain, the standards which operate within a dedicated community are supplemented by professional standards.

A market order cannot in itself be a source of professional standards, because in the absence of any

dedicated societies there exist no systems of thought from which such standards could be derived:

> An intellectual system of spontaneous order can arise only within an existing system of thought. Such a system, transmitted by tradition, may absorb new entrants and guide their contributions in accordance with the traditional standards inherent in it. Systems of this kind may be in danger of exhaustion; they may be undermined by the growth of an internal contradiction or disrupted by dissension over some new issue. But so long as such a system is believed to be true, its cultivation is recognised as a purpose in itself and its standards are accepted in their own right as guides to the cultivators actions.[66]

Polanyi defends a free society on the grounds that it gives dedicated communities the freedom to pursue their ideals. Indeed for Polanyi a free society is itself a dedicated community. According to Hayek self-directed actions generate a spontaneous order within a catallaxy because the individuals which make up that order follow abstract rules—the rules of property, tort, and contract. Polanyi observes however that all rules have to be interpreted. It thus follows that just as doing science is not simply a question of following scientific methods, so becoming a free society is not simply a matter of acting in accordance with rules of justice. All such rules rely upon interpretative practices.[67]

The claim that the practices which underlie a free society go beyond any formal account, are similar to the views of Michael Oakeshott; who in *Rationalism in Politics and other Essays*[68] asserts that by only recognising the sort of general rules we find in textbooks, rationalism neglects the practical knowledge from which such knowledge is abstracted. In *On Human Conduct*[69] Oakeshott declares that all human associations are structured by practices; and that practices are either Prudential Associations in which members have a common purpose, or Moral Associations in which members are united by no more than the authority of common practices. Oakeshott declares that human ends are too various for a Prudential Association to be an appropriate political model. One of the few contemporary references in his essay *Rationalism in Politics* is to the *Science, Faith and Society*. He also wrote a review of *Personal Knowledge*.[70] Harwell Wells observes that

> Polanyi preceded Oakeshott and was an admitted influence upon him. Oakeshott's views of knowledge, as expressed in his 1947 *Rationalism in Politics* appear to be almost identical to those espoused by Polanyi in his 1945 lectures. Both Polanyi and Oakeshott rejected the rationalistic claim that a practice can be known solely through ratiocination, or knowledge of its rules, as such a claim ignores tacit knowledge.[71]

For Polanyi however a free society is a dedicated society i.e. the practices that constitute a free society have the common purpose of seeking to realise transcendent ideals. Nor is Polanyi interested in seeking to use tradition as a substitute for critical reflection. Interpretative practices serve as the context within which individuals change existing practices in the pursuit of transcendent ideals. Drawing our attention to the debate which took place between Burke and Paine about the character of the French Revolution, Polanyi observes that while Paine asserted the right of every generation to self-determination, Burke opposed any attempt to effect a revolutionary transformation of existing institutions, on the grounds that radical breaks from tradition inevitably lead to despotism. Polanyi notes that his account of what it is to be a free society transcends this controversy:

> It rejects Paine's demand for the absolute self-determination of each generation, but it does so for the sake of its own ideal of unlimited human and social improvement. It accepts Burke's thesis that freedom must be rooted in tradition, but transposes it into a system cultivating radical progress.[72]

Oakeshott suggests that such a claim smacks of Platonism/Hegelianism[73] For Polanyi however a free society is not justified by its value neutrality, but by its belief in transcendent ideals.

Hathersage, nr Sheffield

Bibliography:

Allen, R.T. (1996) Some Notes on Polanyi's Economic *Appraisal* 1:2 pp. 95-6.

Allen, R.T. (1998) *Beyond Liberalism: The Political Thought of F.A. Hayek and Michael Polanyi* New Brunswick: Transaction Publishers

Agassi, J. (1975) Genius in Science *Philosophy of the Social Sciences* 5 pp. 145-61.

Berlin, I. (1991) *The Crooked Timber of Humanity: Chapters in the History of Ideas* London: Fontana Press.

Bernal, J.D. (1936) *The Social Function of Science* London: RKp. Calvin, M. (1991) Memories of Michael Polanyi at Manchester *Tradition and Discovery* 18:2 pp. 40-42.

Congdon, L. (1992) The Origins of Polanyi's Neo-Liberalism *Polyanyiana* 2:1-2 pp .99-105.

Crockett, R. (1995) *Thinking the Unthinkable* London: Fontana Press

Crombie, A. (Ed) (1963) *Scientific Change* London: Heinmann

Feyerabend, p. (1985) Democracy, Elitism, and Scientific Method *Inquiry* 23 pp. 3-8.

Friedman, M. (1970) *The Counter-Revolution in Monetary Policy* IEA.

Fukuyama F. (1992) *The End of History and the Last Man* London: Penguin Books.

Gamble, A. (1996*) Hayek: Iron Cage of Liberty* Oxford: Polity.

Gelwick, R. (1977) *The Way of Discovery: An Introduction to the Thought of Michael Polanyi* New York: Oxford University Press.
Gray, J. (1986) *Hayek on Liberty* Oxford: Blackwell.
Hayek, F.A. (1944) *The Road to Serfdom* London: RKp.
Hayek, F.A. (1960) The Constitution of Liberty London: RKp.
Hayek, F.A. *Law, Legislation, and Liberty* Volume 1 (1973) Volume 2 (1975) Volume 3 (1979) London: RKP. Hayek, F.A. (1988) *The Fatal Conceit: The Errors of Socialism* London: RKp. Jacobs, S. (1997-8) Michael Polanyi and Spontaneous Order 1941-51 *Tradition and Discovery* 24:2 pp. 14-28.
Keynes, J.M. (1936) *The General Theory of Employment, Interest and Money* London: Macmillan.
Knight, F. (1949) Virtue and Knowledge: The View of Professor Polanyi *Ethics* 59 pp. 271-84.
Lakatos, I. (1976) *Proofs and Refutations: The Logic of Mathematical Discovery* (Ed) J. Worral & G. Curry Cambridge: Cambridge University Press.
Lakatos, I. (1978) *The Methodology of Scientific Research Programmes* (Ed) J.Worral & G.Curry Cambridge: Cambridge University Press.
Langre, O. (1936) On the Economic Theory of Socialism *Review of Economic Studies* Parts I-II Volume pp. 53-71.
Lavoie, D. (1985a) *National Economic Planning: What Left?* New York: Ballinger.
Lavoie, D. (1985b) *Rivalry and Central Planning: The Socialist Calculation Debate Reconsidered* Cambridge: Cambridge University Press.
Locke, J. (1963) *A Letter Concerning Toleration* Edited by A. Montuori Hague Martinus Nijhoff.
Machlup, F. (Ed) (1977) *Essays on Hayek* London: RKp. MacIntyre, A. (1977) Epistemological Crises, Dramatic Narrative, and the Philosophy of Science *The Monist* 60 pp. 453-72.
Mays. W. (1978) Michael Polanyi: Recollections and Comparisons *Journal of the British Society for Phenomenology* 9:1. pp. 44-55.
Milosz, C. (1953) *The Captive Mind* New York: Secker and Warburg.
Mirowski, p. (1998) Economics, Science, and Knowledge *Tradition and Discovery* 25:1 pp. 29-42.
Mises, L. (1981) *Socialism: An Economic and Sociological Analysis* Translated by J.Kahane Indianopolis: Liberty Classics.
Oakeshott, M. (1958) The Human Coefficient *Encounter* 9 pp. 77-80.
Oakeshott, M. (1962*) Rationalism in Politics and other Essays* London: Meuthen.
Oakeshott, M. (1975) *On Human Conduct* Oxford: Clarendon Press.
Polanyi, M. (1935) USSR Economics – Fundamental Data, System, and Spirit *The Manchester School of Economic and Social Studies* 6 pp. 67-89.
Polanyi, M. (1941) The Growth of Thought in Society *Economica* 8 pp. 428-56.
Polanyi, M (1943) The English and the Continent *Political Quarterly* 14 pp. 372-81.
Polanyi, M. (1945a) *Full Employment and Free Trade* Cambridge: Cambridge University Press.
Polanyi, M (1945b) Science and the Modern Crisis *Memoirs and Proceedings of the Manchester Literary and Philosophical Society* 86:6 pp. 107-16.
Polanyi, M. (1946) *Science, Faith and Society* Oxford: Oxford University Press.
Polanyi, M. (1948) Planning and Spontaneous Order *The Manchester School* 16 pp. 237-68.
Polanyi, M. (1951) *The Logic of Liberty* London: RKp. Polanyi, M. (1956) Oscar Jaszi and Hungarian Liberalism *Science and Freedom* 1 p. 7.
Polanyi, M. (1958) *Personal Knowledge: Towards a Post-Critical Philosophy* London: RKp. Polanyi, M. (1966) *The Tacit Dimension* London: RKp. Polanyi, M. (1969) *Knowing and Being: Essays by Michael Polanyi* Edited by M. Grene London: RKp. Polanyi, M. (1997) (Ed) R.T. Allen *Society, Economics & Philosophy: Selected Papers* London: Transaction Publishers.
Popper, K. (1945) *The Open Society and its Enemies* (Two Volumes) London: RKp. Prosch, Harry (1986) *Michael Polanyi: A Critical Exposition* Albany: SUNY Press.
Roberts, p. C. (1969) Politics and Science: A Critique of Buchanan's Assessment of Polanyi *Ethics* 79 pp. 235-85.
Roberts, p. C. (1990) *Alienation and the Soviet Economy: The Collapse of the Socialist Era* New York: Holmes & Meier.
Roberts, p. C. and Cott, N. (1998/99) Polanyi's Economics *Tradition and Discovery 25:3.*
Talmon, J.L. (1952) *The Origins of Totalitarian Democracy* London: Secker and Warberg.
Taylor, C. (1989) *Sources of the Self: The Making of Modern Identity* Cambridge: Harvard University Press.
Toulmin. S. (1976) History, Praxis and the 'Third World' in *Essays in Memory of Imre Lakatos* Edited by R.S. Cohen Dordrecht: Reidel pp. 665-75.
Wells, H. (1994) The Philosophical Michael Oakeshott *Journal of Ideas* 55:1 pp. 129-45.

Notes:

1 Polanyi (1966) pp. 3-4.
2 Calvin (1991) p. 40.

3 Wolfe Mays (1978) has written that relations between the Polanyi and the Department of Philosophy at Manchester University were cool. It has also been reported to me that when Polanyi was made a Fellow of Merton College Oxford, one of the Fellows was

heard loudly to exclaim "That Charlatan!" The polite version of this, delivered by G.J. Warnock to Harry Prosch, was that Polanyi ought to be described as a *philosophe* not a philosopher. Prosch (1986) p. 274.

4 Bernal (1936).

5 Polanyi (1997) p. 62.

6 Ibid. p. 67.

7 Ibid. p. 67. In an address delivered in 1942 to the Manchester Literary and Philosophical Society, Polanyi was one of the first commentators to draw attention to the State imposed Lamarckism under Lysenko. Lamarkism was being promoted on the political grounds that it supported the view that if human beings were given the same conditions of development physical inequalities could be eliminated. See Polanyi (1951).

8 Polanyi (1946) p. 531.

9 Polanyi belonged to a family of assimilated Jews. According to Lee Congdon 'Because Nineteenth Century Liberalism had set him free, opposition to its ideals took on for him a very personal character.' Congdon (1992) pp. 99-100.

10 Polanyi (1997) p. 139.

11 'Freedom is ambiguous because there are different ways of being free. One way is to be free from external constraint. The rational limits to this freedom are set by the condition that it must not interfere with other peoples right to the same freedom…Its fundamental opposition to all restraint can easily be turned into nihilism. Another conception of freedom in its extreme form is almost the opposite of the first. It regards freedom as liberation from personal ends by submission to impersonal obligations...Such surrender to moral compulsion is certainly a form of liberation. But the theory of such freedom can become very much like a theory of totalitarianism. It does become altogether totalitarian if you regard the State as the supreme guardian of the public good.' Polanyi (1951) p. 33.

12 Polanyi traces the notion that the State ought to have supreme authority over society from Hobbes, who claimed that any division of its power would lead to a conflict between its parts, via Rousseau, for whom the supreme authority of the State was justified by an appeal to the General Will, to those for whom the needs of the Party overrode all other considerations. (See Polanyi 1945b). See Talmon (1952) and Milosz (1953).

13 When individuals pursue general principles this generates a communal life governed by these principles 'By apprenticing himself to an intellectual process based upon a certain set of ultimates, the newcomer enlists as a member of the community holding these ultimates, and his commitment to these necessarily involves the acceptance of the rules of conduct indispensable for their cultivation.' Polanyi (1946) p. 64.

14 Polanyi (1935) pp. 67-89.

15 Hayek (1944).

16 Polanyi (1951) p. 126.

17 Polanyi (1951).

18 As Roberts explains 'Traditionally, economic analysis has been circumscribed by the economist's concern with optimal resource allocation. This concern originates in the economist's definition of a market system as a price system. By thus defining an organisational system in terms of the signals upon which it relies, economists have restricted artificially their understanding of the generality of market processes. In this chapter [following Polanyi] the market system is treated as a member of the class of polycentric organisational systems, and is defined in terms of the organisational principles general to polycentric systems. When organisation is achieved among people by their mutual interaction and initiative, the result is a system of mutual interaction that cannot be subdivided into consecutive stages. Such a system is termed 'polycentric' because all the members in the interlocking and overlapping network of organisation are free to take autonomous action that will bear on the actions of other members. Each members automatically chosen task comprises a part of the overall outcome and contributes toward it achievement…The organisation of science, democratic politics, and economic activity in a market system are characterised by polycentrism' Roberts (1990) p. 49.

19 Rejecting the labour theory of value Neo-Classical economics declares that nothing has any intrinsic value: having a value is a subjective relationship between subjects and objects. Free markets allow exchanges of goods and services which generate rates of exchange called prices, which balance supply and demand – with value determined by the aggregated demand of individual consumers.

20 Mises (1981).

21 Polanyi (1985b)

22 Langre (1936-7)

23 Gamble (1996) p. 66.

24 Polanyi (1945).

25 Keynes (1936).

26 For example Friedman (1970).

27 *The Financial Times* 2:9:1999.

28 Polanyi argued that in a depression, when high savings create a high demand for money, the government should decrease that demand by lowering taxes. Conversely when there is an inflationary boom, the government should reduce the amount of money in circulation by increasing taxes. Keynesians advocated increases in government spending. For Polanyi however this would undermine the Principle of Neutrality —the principle that investment decisions ought to be determined by the merits of the investment. See Allen (1996). According to the economist Paul Craig Roberts 'Polanyi synthesized Keynesian economics with

the monetary school of economics later associated with Milton Friedman. In this synthesis Polanyi was at least two decades, and perhaps three, ahead of the best minds in the economics profession.' Roberts (1998-9) p. 26.

29 Polanyi (1940) p. 59. Fukuyama notes that 'Both Tocqueville and Hegel emphasised the importance of associational life as a focus for public spiritedness in the modern State…because it is through such civic associations that people are drawn outside of themselves and their private selfish concerns.' Fukuyama (1992) p. 32.

30 See Popper (1945).

31 Knight (1949) p. 248.

32 Buchanan (1967) p. 310.

33 Roberts (1969) p. 238.

34 Locke (1963) 45.

35 See Berlin (1991).

36 Roberts (1969) p. 273.

37 Polanyi observed that in England many Protestant sects defended freedom on the grounds that it facilitated the pursuit of religious truths. Many of those in France who sought to defend freedom, also however sought to attack religious ideals. See Polanyi (1943).

38 Polanyi (1951) p. 97.

39 Polanyi notes that Diderot in the *Nephew of Rameau* contemplates an immoralism justified by the hypocrisy of society. The Marquis de Sade viewed himself as acting in accordance with the insight that man is no more than a machine, and law no more than the will of the stronger. Polanyi (1997) p. 87.

40 Polanyi (1951) p. 106.

41 Polanyi (1945) p. 15.

42 Polanyi (1969) p. 36.

43 Polanyi (1946).

44 Polanyi points our that a table once appeared in the science Journal *Nature* pointing out that the time of gestation, measured in days, of a number of animals ranging from rabbits to cows is a multiple of the number p. No amount of empirical evidence however is likely to convince a biologist that this numerical relationship has any significance. See Polanyi (1951) p. 16-17.

45 Polanyi gives as an example the periodic system, the theory of which was contradicted by the fact that argon and potassium, as well as tellurium and iodine, only fit in a sequence of decreasing instead of increasing atomic weights. This contradiction did not lead to the system being abandoned. It was assumed that future discoveries would eliminate the problem, something which did indeed eventually take place. According to Polanyi however eliminating contradictions to a theory does not necessarily require new discoveries

> All theories are epicyclical in the sense that reasons are always conceivable which will account for observed deviation. It always remains for the scientist to decide in the light of the general premises of science, and of the particular assumptions considered plausible at the time, what weight to attach to any given set of observations in support or refutation of a theory on which they are judging.' Polanyi (1946) p. 93.

46 Polanyi (1946) p. 58.

47 Lakatos (1978) pp. 107-20. Feyerabend (1985) pp. 3-18 agrees with Lakatos that Polanyi was an elitist, but responds that Lakatos was even more of an elitist, because he believed that it should be philosophers who set the standards of evaluation. Polanyi according to Feyerabend gives an authoritarian solution to the problem of rationality. His response is to make science a 'free for all' in which boldness becomes acceptable. Agassi (1975) attacks the assertion that scientific journals are justified in protecting themselves from a flood of worthless writing. While worthless writing is harmless, censorship is harmful. Lavoie (1985) defends Polanyi however by noting that worthless publications are not harmless, they use up resources, such as time, which could be used more effectively. In any case

> this kind of censorship has nothing to do with 'academic' still less with political freedom. Those regarded today as crackpots are free to constitute, indeed do constitute, their own communities, in which they will find themselves exercising a similar censorship in their own journals. It is also conceivable that some group might ultimately vindicate its claims, and find itself willy-nilly accepted as part of the scientific community. It may be that something of this sort is happening in the case of chiropractic (Lavoie (1985a) p. 265.)

48 Lakatos (1978) p. 112.

49 Toulmin (1976) pp. 655-675.

50 Quoted by Toulmin (1976) Ibid. p. 661.

51 Lakatos (1976).

52 Kuhn 9 (1962).

53 Ibid.. p. 150.

54 'Mr Polanyi…has provided the most extensive and developed discussion I know of the aspect of science which led me to my apparently strange use [of the word paradigm]…Polanyi repeatedly emphasizes the indispensable role played in research by what he calls the 'tacit component' of scientific knowledge. This, if I understand him correctly, is the inarticulate and perhaps inarticulable part of what the scientist brings to his research problem; it is the part learned not by precept but principally by example and practice.' Crombie (1963) p. 392.

55 Ibid.. p. 380. Gelwick notes that 'Polanyi has discriminated between his position and that of Kuhn by insisting that we must go further than disproving the older objective ideal. We have to account for what it is in the nature of scientific knowing that leads the creative and original mind to hold to a new grasp of reality that appears at odds with the established

paradigm. There are no rules for this procedure. Only a new theory of knowledge in science that allows for the risk of failure, and for the universal intent of the individual scientist, provides the grounds of such a change. This new theory is what Polanyi calls personal knowledge and tacit knowing.' Gelwick (1977) pp. 128-9.

56 It is no accident that two figures prominent in recent Communitarian attacks upon Classical Liberalism, Alasdair MacIntyre and Charles Taylor, are familiar with the writings of Polanyi. See MacIntyre (1977) and Taylor (1989).

57 Machlup (1977) p. xi. Both Hayek and Polanyi participated in a symposium in Paris in 1938 set up in order to discuss The Good Society by Walter Lippmann 'They were all drawn to Paris by a shared concern at the apparently inexorable decline of Liberalism in Europe - "Le Colloque Walter Lippmann" represented the first coherent attempt to analyses the reasons for that decline and to suggest ways in which that decline might be reversed.' Crockett (1995) p. 9.

58 Hayek (1960).

59 Hayek Volume 1(1973) Volume 2 (1975) Volume 3 (1979).

60 Hayek (1988).

61 Ibid. p. 88.

62 Machlup (1977) p. 36.

63 In *The Growth of Thought in Society* Polanyi (1941) published in *Economica* [Editor F.A.Hayek] Polanyi uses the phrase 'dynamic order', which he seems to have derived from the Gestalt psychologist Wolfgang Kohler. His first published use of 'spontaneous order' occurs in *Planning and Spontaneous Order* (1948) pp. 237-68. The first published use of the phrase by Hayek occurs in Hayek (1960).

64 Gray (1986) p. 15.

65 Polanyi (1969) p. 69. For the origins and different uses which Polanyi and Hayek make of the concept of spontaneous order see Jacobs (1997-98). Hayek recognises that although he shares many of the same worries as Polanyi he ends up with a different vision

Buchanan: Let me ask you about your relationship, or did you know or how close were you to Michael Polanyi? Did you know him well?

Hayek: Yes, he was for a few years my colleague on the Committee on Social Thought (at the University of Chicago), and there was an interesting relationship for a period of ten years when we happened to move from the same problem to the same problem. Our answers were not the same, but for this period we were always just thinking about the same problems. We had very interesting discussions with each other, and I liked him personally very much.

(Quoted by Mirowski (1998) p. 30 from an unpublished interview with Hayek in 1978).

66 Polanyi (1951) p. 166.

67 'Can we find, as in the case of the premises of science, a practical art which embodies them; a tradition by which this art is transmitted; institutions in which it finds shelter and expression? Yes, we shall find them in the art of free discussion, transmitted by a tradition of civic liberties, and embodied in the institutions of democracy.' Polanyi (1997) pp. 67-8. Allen (1998) pp. 4-5 suggests that in Britain liberalism was largely a movement seeking to extend traditional rights, institutions, and principles, whereas on the Continent of Europe there was a greater emphasis upon the use of the State to replace traditions with a new order. Polanyi argues that theoretical accounts describing what it is to be a free society crossed from England to France during the French Revolution, but not the interpretative practices. See Polanyi (1958) p. 54.

68 Oakeshott (1962).

69 Oakeshott (1975).

70 Oakeshott (1958) pp. 77-80.

71 Wells (1994) p. 137.

72 Polanyi (1969) p. 71.

73 Oakeshott (1958) p. 79.

JOURNEYMAN TO MASTER: THE PASSING ON OF TACIT KNOWLEDGE

Bob Brownhill

1 Introduction

In a recent paper Paul Hager (Hager,2000) argued that Polanyi's concept of tacit knowledge is of little use as it is too ambiguous and often appears to be 'unformulable, unteachable and unlearnable' and cannot be articulated. In contrast I propose to argue that Polanyi's notion of tacit knowledge is of practical use, and that to a certain degree it can be formulated, imparted by a teacher, is learnable by a pupil, and that much of it can be articulated.

A critical component for economic success in world markets is an educated work force but many people have argued that in fact we have an inadequately educated work force, which has been created partly by an inadequate learning tradition with a lack of parity between so called academic education and vocational training and their related qualifications (Davies and Brownhill, (2000). The problem is further enhanced because many of the skills and expertise lie outside the academic world and within the professions themselves. Furthermore there is very little knowledge exchange between higher education and the professions (Eraut, 1985).

2 Professional knowledge

There are a number of different kinds of professional knowledge: knowledge of particular cases, knowledge of precepts, knowledge of theory these are all related to the notion of generalisability. However, there is also an area related to 'know how'' and how far it can be made explicit and therefore teachable (Eraut, 1985). There is the question of how we can use the knowledge and skills we have acquired in the practical field.

3 The tacit dimension

It is normal to think of skills as relevant to work where manual dexterity is of major importance. However, it is the case that that manual skills are in fact a manifold of a number of different abilities. When we say someone is a good golfer, snooker player or judoka we mean that they have the skill and knowledge about the game to play well. However, the way we express this is misleading, for it seems that we are making a distinction between the skill and the knowledge, 'knowing how' and 'knowing that' but strictly speaking we cannot really just know that without also knowing how because our knowledge will be only partial, and in effect useless. It will just be some information we have but we will not know whether it is correct or not (Brownhill and Brown, 2000). We usually call an ability to do or make something, which is composed mainly of physical movements, a skill. We therefore say that Stephen Hendry, the snooker player, is a magnificent player, but that magnificence is a manifold of simpler skills: the ability to make a proper arch with his hand, the ability to stand still, the ability to cue the ball correctly, the ability to recognize angles, the ability to hit the cue ball with the right power ,etc. Yet we are not liable to speak of the ability of a person who clearly uses his/her mental abilities in the same way , although his/her expertise is also a manifold of different skills, such as speaking , understanding, describing, analysing, explaining, and making judgements, etc. When a distinction is made between technical and vocational education and professional education then an appeal is often made to terms like 'understanding' and 'judgement' ,with the suggestion that technical/vocational education is confined to the 'replicative' and 'applicative' mode (see Boudy et al, 1964). while professional education is something more (Eraut, 1985)

4 Professional judgement

John Brennan (1977) argued that we can look at things in different ways, and from different points of view, and therefore arrive at different interpretations. Take the case of a medical practitioner. He/she can look at the symptoms of a patient from one point of view, and arrive at a particular diagnosis but another practitioner may look at the symptoms from a slightly different point of view and get a different diagnosis. What is happening is that the practitioner is using the point of view to provide rules which are then used in the diagnosis. The rules indicate to him that certain facts are relevant and others are not: the chaotic facts are organized and given meaning by the application of the rules from different points of view. The practitioner arrives at a decision to use a certain point of view, by his experience of similar cases. The symptoms do not determine the point of view to be used, but leave the practitioner to delve into his experience and make a judgement about the most likely reasons for the symptoms. Once he has decided on this he can apply the point of view, make a diagnosis , and suggest treatment. The practitioner may, of course, be wrong and will need to re-asses the judgement. The good practitioner is the one who on the whole chooses the right point of view and arrives at the correct diagnosis. It is a matter of fallible judgement. The practice of medicine is very much based on skills which have been acquired over a considerable period of time which is very much longer than the practitioner's initial medical education. It has another feature and that is that

because it is practice oriented it gives the practitioner considerable leeway in making choices but at the same time makes the correct choice far more difficult to achieve.(Brownhill, 1999). We can explain the process as a series of judgements. The facts are at first examined, the facts (symptoms) lead to a judgement within the practitioner's experience about the likely cause. The judgement is firmed up and a decision made. The judgement is then applied and a series of judgements made about what symptoms are relevant and what not. A judgement is made as to what it all means (a diagnosis). series of judgements are then made about what treatment is needed. A series of judgements need to be made about the success of the treatment, and adjustments made (a further complication is that patients do not all react in the same way). At some point a major decision (judgement) has to be made about the success of the treatment , and then a decision as to whether a diagnosis should be abandoned and another looked for. It is possible to get a situation where the point of view and the diagnosis are correct but the treatment does not work (Polanyi, 1959).

A theory and practice can only be properly understood and have meaning if it is understood within a framework of other theories, beliefs and practices which themselves have been tacitly understood. I will look at interpretative frameworks as a guide to judgements and decision making later in this paper (Brownhill, 1997)

5 Passing on experience

The problem we meet as professional educators is how we are to formulate this accumulated experience in such a way that it can be passed on to younger practitioners at different stages of their career. Michael Oakeshott (1967) argued that the abilities or what we actually know are a combination of information and judgement. Information is made up of facts, and is impersonal, and can normally be found in textbooks, dictionaries, etc. For instance a typical content is things such as ingredients for a rogan gosh curry, the seating capacity at Molineux or the atomic structure of nitrogen. The information is inert, for it is just a component of knowledge and can be useful or useless. Useful information consists of those facts, which are related to a particular skill one may wish to display. The rest is useless for the task, or is rather irrelevant to it. The importance of the information is that it provides rules or rule- like propositions, which are related to the abilities. For instance, the seating capacity at Molineux will tell us how many tickets can be sold for a Wolves football match, and a recipe will tell us the ingredients we need for the curry we are making.

The rules can be related in two different ways. For instance, they could be items of information that must be known before something can be performed (e.g., the ingredients for a rogan gosh curry; or they can provide criteria which indicate whether a performance is correct or incorrect, e.g., the grammar of language. The rules need to be observed in the performance, and by them it is possible to see whether a speech, for instance, is technically correct or not, although the rules do not need to be known by the performer.

The point is that all proper knowledge has this ingredient of information but it does not constitute all we can know. If we are to acquire an ability or skill we need to add judgement or 'know how'. The term judgement refers to the tacit component of knowledge. This tacit component is not merely unspecified in propositions but is partially not specifiable in principle, and because of this it is sometimes argued that it cannot appear in the form of rules. It cannot be set out as information (Polanyi, 1958). What this also suggests is that 'knowing how' is an ingredient of all knowledge and cannot be entirely separated as a different sort of knowledge. Judgement is part not only of physical skills and abilities but of the use of mental abilities as well.

It is also the case that abilities do not exist in an abstract world but in individual examples. It is the case that each individual example will exhibit a style of its own that cannot be specified in propositions. Indeed to fail to detect a person's style is to have missed much of the meaning of the action.

It has been argued many times that education is partially an initiation of a pupil into different cultures, or modes of experience (Oakeshott, 1933). From the point of view of the teacher it means making available to the pupil a body of information, 'instructing', and passing on the tacit component of knowledge or 'imparting' (Oakeshott, 1967) the skills and know how associated with the information. Of course, the know how cannot be directly expressed but it can be shown to a pupil, and the pupil can usually improve through practice. In order to do this the pupil will need to co-operate intelligently, and desire to achieve the necessary skills. Judgement then, when united with information, generates knowledge or an ability to do, to make, or to understand and explain. It gives the pupil the power to contribute to different modes of thought

There is a problem here , for the question arises as to whether the skills are subject or mode specific or whether some can be transferred.

Skills and abilities , particularly the ability to make judgements are a central part of any discipline study within higher education but are a major component of professional competence. in medicine, the law, engineering ,etc. These skills develop by participating in a practice, and eventually become second nature to an experienced practitioner. They become the basis for his confidence in having power and control over the subject matter of his/her discipline or profession. Yet is

there a way of bypassing the long path to expertise?

The paper ends with a consideration of how the expertise of the practitioners can be passed on through higher education, and with a sketch of the structure of this sort of knowing.

6 The tacit to explicit

Eraut (Eraut, 1985) argues that one way of passing on the experience of the professional is to attempt to make their tacit knowledge more specific. in arguing this he is following Argyris, and Schon (1974). This can be undertaken by a process of self reflection by the experienced practitioner, and perhaps by the keeping of a reflective diary. and then by developing a narrative which relates the experience. The aim seems to be to formulate rules or rule like propositions which can then be used by a developing practitioner as a guide in their own practice. A problem with this proposal is that it dramatically increases the workload of the experienced practitioner (anyone who has attempted to keep a reflective diary will realize this), by the keeping of the diary itself and by the rather artificial situation of then trying to formulate the practice into rules or rule like propositions, either by oneself, or together after reflection and discussion with one's colleagues. It is very difficult because the experienced practitioner has gone beyond the stage of following rules, and that is why we say the knowledge has become tacit. A possible other solution is to follow the example of Aristotle in his ethics (Aristotle, 1953). When discussing ethical action he provides not an objective rule for action but a rationale of it with his doctrine of the mean, not to much or to little but just the right amount. Clearly this is not an objective but a subjective formula. It is really stating the action is a bit like this but it depends on the circumstances. It is a very rough guide for action. A practitioner, certainly in the field of physical action, will say that he/she does not follow rules but just does it. This solution is really stating that when you have gained the experience you will see what I mean.

This raises another problem, as Benner (1984) has shown in the field of nursing practice. The process of becoming an expert is a gradual one, first the following of rules, and then the gradual inculcation of rules until they become second nature (really tacit knowledge), and the process of going beyond the rules and developing one's own style. The inexperienced practitioner would need to take in the rules of the experienced practitioner and gradually develop them into second nature. In mid career they probably attempt to fit them into their own style, so that in a sense the practice becomes unique. This brings us to the possibility of the master class. A master class is where the master tells a 'story' and the members of the class do not copy but take from the master items that they will try out to see if it enhances their own performance. Quality assurance,at this level, can only rely on self-set standards, where a critique of one's actions lies in one's approach to the next performance.

It is also the case that self reflection is limited and by its very nature after the event. It is very difficult to see how tules can be formulated for action in critical situations. Action has to be far more instinctive or intuitive. Benner *et al* call this sort of immediate decision making thinking-in-action. (Benner *et al*, 1999)

7 Interpretative frameworks

Michael Polanyi argued that all judgements take place within an interpretative framework (Polanyi, 1959) Michael Eraut uses the term 'contexts of use' (Eraut, 1985). An interpretative framework is a way of looking at things in order to give stability to our perceptions (Brownhill, 1997), for instance , a Marxist will use a whole array of different concepts and terminology when he /she studies society (Brownhill and Smart, 1989). The framework determines how the object of study will be looked at, and will indicate what is relevant and what is not. The whole concept of interpretative frameworks can be criticised on the grounds of its subjectivity, and self confirming nature. It provides the spectacles for one to look at the world. However, in some fields the use of interpretative frameworks has been questioned . It has been argued that professional nursing decision making is disordered within a certain orderliness. Nursing decisions are made in random, intuitive ways because patient care is not linear an orderly framework for explaining it will never be effective (Watkinson, 1999). I argue that the contents of their experience, experience of numerous cases, their reflection on these, and their training tacitly provides the framework for their judgements. The framework is clearly tacit but is also flexible as their experience develops but nevertheless provides some stability and consistency to their decision making. It is also the case that nurses have an obligation to certain ethical values and this will and ought influence their judgements (Watkinson, 1999).

An interpretative framework is a developing thing . It is highly personal but nevertheless provides a base for making judgements. It is also the case that it may be wrong and lead to incorrect judgements but other mistakes can be made as well. In fact there seem to be four possibilities when making a judgement within a framework:

A correct judgement within a correct framework;
An incorrect judgement within a correct framework;
A correct judgement within an incorrect framework;
An incorrect judgement within a incorrect framework.

Outside this sequence we could remove part of a person's brain, and get no judgement with no framework. (Polanyi, 1959)

The framework is based on one's knowledge of

theory and practice, one's experience and reflection, it is flexible and adaptable. It is also based on one's beliefs and prejudices, and in such a sense is a matter of faith. It is tacit and, although some of it can be revealed its revelation may lead to an infinite regress. One can give it up with difficulty but certain features will probably remain. It is therefore difficult to see how it can be passed on to pupils. They will have to develop their own framework.

The discussion also suggests how tacit knowledge is used. It has a from-to structure (Polanyi, 1958) from the understanding and skills that have become second nature or tacit to action, judgement or a decision or even new knowledge which is then assimilated within one's framework for further use. We always fit new knowledge into an existing framework, so the greater the tacit base we can acquire, the more quickly we are able to assimilate and understand new knowledge. The question arises as to whether this from-to model can be used for just physical cases or conceptual areas as well (Harré, 1977). The answer seems to be yes but it does not set out the logical structure of scientific knowledge. However , it does if we are concerned with the historical process, by which it was formulated (Harré, 1977).

8 Narratives

We have seen that one way of attempting to pass on one's experience is by engaging in self reflection, by attempting to analyse what one did , and then put it into words in the form of story or narrative which retells the experience. In this way an unformulated and basically tacit personal experience can be made more objective by being publicly expressed, and therefore open to further analysis, development and discussion. However, the story told is essentially subjective as it is the storytellers account of the experience. By its very nature it is also an interpretation of the experience by the storyteller, and there can be different interpretations depending on the point of view taken up. The elements of a story based on personal experience includes an account of the sequence of events and actions which took place but becomes a story as the teller develops a story-line to make the sequence more realistic and interesting. In fact, the personal subjective element , which includes emotions, feelings, ideas about the process, motives, and aims of the action undertaken. This is the essentially tacit part of the experience, which can be revealed to a certain extent by the storyteller but needs to be further developed by the listener by emphasising with the story teller and questioning the story of the experience.

This discussion brings out certain points about the nature of a story. A story about one's experience brings the experience into the public domain, and therefore allows it to be discussed and passed on. A story is only one interpretation of what was done by the person who had the experience. There can be different interpretations by others. Perhaps there is not one true interpretation but only different interpretations from different points of view. There may be no true stories but only more complex and in that sense better stories. The greater complexity is partially brought about by the listener questioning the story teller. The interpretation which is finally used for passing on the experience will be a joint effort between the storyteller and the listener (s) but will be open ended, and open to further revision and refinement. The telling of a story is also a skill and a good story teller will need to develop the skill if he/she is to pass on the story successfully in order to enhance colleagues' skills.

Dept of Educational Studies
University of Surrey
Guildford

References:

Aristotle (1953), Trans. J. A. K. Thomson,*The NicomacheanEthics*, Penguin, London.

Argyris, C. and Schon, D. A. (1974), *Theory in Practice; increasing professional effectiveness*, Jossey Bass, San Francisco.

Benner, P. (1984), *From Novice to Expert: excellence and power in clinical nursing practice*, Addison-Wesley, Menlo Park ,C.A.

Benner, P., Hooper-Kyriaidis, P., Stannard, D., (1999), *Clinical Wisdom and Interventions in Clinical Care.* **W. B. Saunders and Co.** London.

Brennan, J. (1977), *The Open Texture of Moral Judgements*, MacMillan, London

Broudy, H. S., Smith, B. D., and Burnett, J. (1964), *Democracy and Excellece in American Secondary Education*, Rand McNally, Chicago.

Brownhill, R., (1997), 'Polanyi and Interpretative Frameworks', *Appraisal*, Vol. 1, Supplementary Issue, Part II.

Brownhill, R. (1999) 'Polanyi and the Development of Qualitative Research, *Appraisal*, Vol. 2, No. 4.

Brownhill, R., and Brown, K. (2000), ' Transferable Skills and Lifelong Learning', *APEL and Lifelong Learning*, S. Bailie and C. O'Hagan (eds.) , University of Ulster, Ulster.

Brownhill, R. and Davies, D., (2000) ' Higher Education for the Workplace: A Need for the Recognition of Experiential Learning', *APEL and Lifelong Learning*, S. Bailie and C. O'Hagan (eds.), University of Ulster, Ulster.

Brownhill, R. and Smart, P., (1989), *Political Education*, Routledge, London.

Eraut, M. (1985), 'Knowledge Creation and Knowledge Use in Professional Contexts, *Studies in Higher Education*, Vol. 10, No. 2.

Continued on p. 162

MACMURRAY AND FREEDOM

Philip Hunt

1 Introduction

In 1949, John Macmurray was invited by the Trustees of Queens University, Kingston, Ontario, to deliver the second series of the Chancellor Dunning Trust Lectures. It is the duty of the lecturer to 'promote understanding and appreciation of the supreme importance of the dignity, freedom, and responsibility of the individual person in human society.' Macmurray had devoted the whole of his life to working out a philosophy of the Personal; the issue of freedom runs as a continuous thread throughout his work, from his earliest publication, *Freedom in the Modern World* in 1932, until his last, his Swarthmore Lecture of 1965 to the Society of Friends. In 1940, along with several other well known philosophers in the English speaking world, he had been invited to contribute a chapter to a symposium called *Freedom: its Meaning*[1]. In this, he introduced a significant distinction between the two concepts of Society and Community: Society, constituted by a common purpose; Community, arising from the sharing of a common life. Politics and economics he saw as the stuff of Society; religion, as the stuff of Community. Then, in 1941, he applied his mind to the same problem seen from the viewpoint of the individual human being, with two distinct but related aspects to his life:

(i) the *Functional*, in the realm of work, where people are related hierarchically, where inequality rules, and where discipline, order, duty and obedience hold sway; and

(ii) the *Personal*, where human beings are of infinite value, where 'the poorest he hath a life to live as the greatest he', and where differences of race, sex, class or function are irrelevant.

We have got, says Macmurray, to find a way of reconciling these two aspects of life. They are *opposites*, with a tension between them; they are *inseparable*, and limit one another; they are *essential* to one another and form a unity. You can't fuse them separate them, or let them run parallel to each other without disaster. The solution he came up with he expressed in a general principle: 'the functional life is *for* the personal life: the personal life is *through* the functional life.'

2 The law of freedom

The Kingston lectures were published in 1949 as *Conditions of Freedom*. It is a short book—only 80 pages long, but it is chock-full of new insights. I intend to concentrate in this paper on one insight in particular: Macmurray's Law of Freedom.

> No man can compass his own freedom for himself. He must accept it as a free gift from others; and if they will not give it him, he cannot have it.[2]

This law is challenging, and has some startling implications. If Macmurray is right, you may *die* for freedom, but you cannot *fight* for it. Later in the book, he spells out this theme rather more fully.

> It may be that we of the West, who have advanced so far and grown so powerful, often at the expense of the rest of mankind, have now to learn that freedom is not our private possession . . . One thing we need, which is very difficult to achieve—the ability to see ourselves as only a part of a society which is universal; and, in our freedom, as the trustees of a possession which belongs as of right to all men. We can preserve our freedom now only by sharing it.[3]

In presenting his case, he deploys two main arguments.

First, he refers to the struggle for power arising from a conflict of ends, where what one of us intends is incompatible with the purpose of others. The ends themselves may be in conflict. They may be inherently incompatible. In such cases, some freedom is inevitably lost. However, if there is a *compossibility of ends* then each party will benefit and freedom in general will be enhanced. As Abraham Lincoln said in his Message to Congress in 1862 'In giving freedom to the slave, we assure freedom to the free.'

Secondly, Macmurray also refers to the fear of Freedom[4]. *Conditions of Freedom* ends:

> Freedom is our nature. But our nature lies always beyond us, and has to be intended and achieved. The obstacle lies in our fear, and the craving for security which expresses it. So at every crisis we are faced with a free choice between freedom and security. If we choose security, and make that our aim, we lose freedom, and find in the end that security eludes us. If we choose freedom, then we are debarred from aiming at security; for that would mean imposing our bondage upon others. If we choose freedom we may find the security we do not seek, though of this there can be no guarantee; *yet it is the only path that offers promise of security*[5]. The generosity which offers friendship to others commits itself to their good-will. They may respond in kind; perhaps we have grounds for believing that in the long run the response must come if we have the patience to wait and to persist. Of the immediate response we cannot be certain and the long run may be very long. Yet it is simple realism to recognize that there is no other way to freedom, if it is indeed freedom that we seek. Freedom is conditional, and these are its conditions. It is for those, whether individuals or people, who are ready to pay its price.

If one is predisposed to accept Macmurray's reasoning, these two arguments carry weight. But are

they likely to convince the sceptically minded? They both tend to be expressions of the *negative*; of what happens if freedom is lost. I think they could well do with positive reinforcement. Such reinforcement is available to the religiously minded; St Paul, for example, wrote of the 'glorious liberty of the children of God.' For the secular minded, I believe we may be able to find positive arguments from History, from Games Theory, and by Analogy. In the rest of the paper, I shall try to see where these may lead.

3 Argument from history: North American colonies [6]

In the 17th Century, three great migrations, well planned and organised, left England to find a new home in America. All three were inspired by religious motives: a burning desire to escape from tyranny at home and find freedom to worship in their own way in a new country. The first to go were the Puritans, from 1629 to 1640, escaping from the 'eleven years' tyranny' when Charles I ruled England without a parliament and Laud was busy ridding the Anglican Church of its Puritan element. After the fortunes of war turned against the King's side, there followed from 1642 onwards a migration of Anglican gentry when the Royalists found a home in Virginia. Their migration continued even after the Restoration, until 1675. In 1677, it was the turn of the Quakers. Persecuted by the Anglican church in England, and equally unwelcome in New England where the Puritans regarded them as heretics, they found a new home in the Delaware Valley, between New England and Virginia, in an area of land granted to William Penn by Charles II in discharge of a debt owed to his father, Admiral Penn. King James himself named the colony Pennsylvania as a memorial to the admiral.

Early in the 18th Century arrived a fourth migration: unplanned this time. It was from the border lands lying between England and Scotland, and Ulster and the rest of Ireland. In this case, the colonists were driven not so much by religious as by economic motives. They found their niche in the 'backcountry' west of the Appalachians. Their arrival was distinctly unpopular, in Pennsylvania in particular; but the colony had an 'open door' policy and these people could not be refused.

Each of these communities claimed to be inspired by a love of freedom; but their prescriptions varied widely. In *Virginia,* liberty was interpreted as Privilege. 'I am an aristocrat', said John Randolph of Roanoke. 'I love liberty and I hate equality.' Slavery, it seemed, was not so much an economic as a cultural necessity: they felt uncomfortable without an obsequious underclass. The *border folk* in the backcountry saw freedom in terms of 'natural liberty': freedom to do exactly as every man pleased without regard for the others. Their exemplar was Patrick Henry. In his speech to the Virginia Convention in 1775 he exclaimed 'I know not what course others may take; but as for me, give me liberty or give me death!' When the border folk moved further west, Daniel Boone told the world that he was seeking 'elbow room.' In *Puritan Massachusetts,* John Winthrop's 'Little Speech on Liberty' (1645) drew a distinction between Natural Liberty, 'to do evil as well as good', and 'Ordered Liberty', referring to the Covenant between God and Man—'a liberty to do only that which is good, just and honest.' It was for Authority—for the Elect, in the Puritan case—to decide what this should mean in practice[7]. However, the Puritans shared with the Virginian gentry and the border folk one conception of freedom which Macmurray could not and did not accept: the idea of freedom as a scarce commodity, to be fought for against all comers (in the case of the border folk) or reserved for the Elect or the Privileged (as in Massachusetts or Virginia). It fell to the *Quakers* to extend the right of liberty to all people, based on the Golden Rule. When the Pennsylvania Assembly in 1751 came to celebrate the Jubilee of their Charter of Liberties granted by William Penn in 1701, they decided to mark the occasion by the purchase of a Great Bell. The inscription on it was chosen by the Speaker and taken from Leviticus: '*Ye shall hallow the Jubilee year, and proclaim liberty throughout* all *the land, to* all *the inhabitants thereof . . .*'[8] Of these four ideas of freedom, it is the Quaker model which marches nearest Macmurray: hardly surprising since he himself found his spiritual niche in the Society of Friends after his retirement. Can we therefore pray in aid Quaker practice in Pennsylvania as a valid example of Macmurray's ideas of Freedom in action? I think we can. In particular, I shall describe two examples; one drawn from the 'Functional' sphere of politics, one from the 'Personal' sphere of human relations.

Politically, the abiding issue in all of the American colonies was keeping the peace between the colonists and the Native Americans (Indians). It was only in Pennsylvania that there was no history of fighting—at least while the Quakers were in control of the Assembly. According to one historian 'no drop of Quaker blood has ever been shed by an Indian'[9]. William Penn concluded his celebrated peace treaty with Tammany in 1682. According to Voltaire it was 'the only treaty between Indians and Christians which was never sworn to and never broken.' However, by 1764 the border folk of the backcountry predominated in the west of the colony. They in no way accepted Penn's view of the Native Americans as brothers.

On the Personal side, the outstanding issue was slavery. Functionally, slavery was seen to be advantageous, even necessary. Many Quakers in the early years bought slaves. By the Yearly Meeting of 1705 it was thought that about seventy percent of the leaders were slave-owners. Then conscience began to bite. Quakers had come to America for freedom's sake:

was it right for them to deny to others what they themselves had left England to ensure for themselves? As early as 1688 the Germantown Meeting issued a testimony against slavery on the grounds that it violated the Golden Rule. It was not however the Quaker Way to impose rules of behaviour in matters of conscience and to compel people to abide by them against their will, rather, to institute reform by persuasion. In 1712 the Pennsylvanian Assembly passed a prohibitive duty on the importation of slaves: this was disallowed by the Crown, which profited greatly by the Slave trade. In 1730 Philadelphia Meeting cautioned its members, but still a few persisted in maintaining slaves. Unanimity was not achieved until 1758, when Yearly Meeting recorded a 'unanimous concern' against 'the practice of importing, buying, selling or keeping slaves for term of life.' This is the first success recorded in the Western world for the cause of abolition of slavery.

4 Argument from Games Theory

In the early 1970's Robert Axelrod of the University of Michigan set up a computer tournament to determine what happens when two or more totally egotistic participants confront each other over and again for essential resources. All contestants are given the choice of two alternative strategies: they can either (a) 'co-operate' (in which both benefit to a similar but limited extent), or (b) 'defect', in which case the winner takes all: unless they *both* defect, when they cancel each other out and no one wins anything. Theorists will recognise this as an experiment in 'Iterated Prisoners' Dilemma.' Experts in Games Theory, computer intelligence, and evolutionary biology were all invited to submit strategies, of whatever complexity they wished. There were eventually 14 strategies pitted against each other in the first tournament, in a long series of round-robin games, each lasting for 200 'rounds'. When an outright winner seemed to have emerged, a second tournament was set up with 62 competitors trying to knock the winner off its perch. They all failed. The outright winner turned out to be the simplest strategy of all: TIT FOR TAT. It consists of two rules only. For your first move, you 'co-operate': that is, apply the Golden Rule—'Do-as-you-would-be-done-by'. Thereafter, you do what your opponent had done the move before. If he had co-operated, you co-operate; if he had defected, you defect. It incorporated both carrot and stick. It was, in Axelrod's term, 'nice', in that you never defected first; it was 'forgiving', in that it would reward good behaviour by co-operating; it was 'tough', in that it would punish bad behaviour by defecting. It was also 'clear', in the sense that its strategy was easily grasped by its opponent. TIT FOR TAT was no strategy for any quick victory. It was no way of clobbering opponents. It always lost some rounds, but it always won in the long run. Lewis Thomas, sometime President of the Memorial Sloan-Kettering Cancer Center in New York, wrote of TIT FOR TAT

> It is also a strategy that will inevitably, and with mathematical certainty, spread through any community of players using other strategies. A cluster of TIT FOR TAT strategists cannot be invaded by other, hostile or aggressive players. Once established within a sea of competitors—provided the game goes on for an indefinite period of time—it emerges as the only strategy in town . . . The computer game persuades us that it is the kind of biological logic that one might expect to emerge by natural selection in the course of evolution.[10]

TIT FOR TAT was founded on real experience; the experience of the warring combatants in trench warfare in World War I. The squalor, misery, and constant fear of death in the trenches impelled both sides, with no direct contact whatever between them, to devise a mutual method of ritualising warfare and thereby reducing the risks to a bearable minimum. How it came about is set out in a book by a social historian, Tony Ashworth, entitled Tr*ench Warfare, 1914-1918: The Live and Let Live System.* TIT FOR TAT was inspired by that System. But the title 'TIT FOR TAT' is a misnomer. It sounds as if the essence of it is Retaliation; but if it were, the game would be effectively over after the first round. 'LIVE AND LET LIVE' is a more accurate description. The secret of its success lies in the opening gambit: the Golden Rule.

5 Argument by analogy

To find a suitable analogue, we need to find a field of human endeavour similar to, but not congruent with, the Community in which Macmurray's Law of Freedom operates. This presents no difficulty. Macmurray gave us a hint as early as 1927 as to what might be wanted when he wrote ' . . .modern experimental science is characteristically Christian in its own sphere . . . it is the intellectual life of faith.'[11] In 1974, Michael Polanyi came up with this positive invitation:

> The pursuit of science . . . can serve as a paradigm for other free associations of persons dedicated to other ends that are, like truth, conceived to be of intrinsic worth . . . let us now see . . . how such a free scientific community . . . may be useful for other free associations in a free society and, finally, for a free society itself.[12]

Before we embark on this course we need to agree on a common vocabulary, for two reasons. First: it is not easy to find the right word, or words, to describe the notion of a relationship which has no purpose beyond itself. Both Macmurray and Polanyi have used 'Community' in this context; but Polanyi has gone on to refer to other free associations which go beyond the scope of this paper. In the second place, we need a

label for Polanyi's 'free scientific community' which will distinguish it from Macmurray's 'community', since it is that which we hope will provide the analogue we are after. Polanyi has referred to it elsewhere as the 'Society of Explorers'; but Macmurray uses 'society' in a different sense. Let us therefore go for a new word altogether, drawing inspiration from the 'convivial institutions' Polanyi mentions in *Personal Knowledge*[13], and label the society of explorers a 'Convivium' in order to distinguish it from Macmurray's 'Community'. A Convivium, says Polanyi, is grounded on a robust framework of Belief.

> We must now recognise belief once more as the source of all knowledge . . . No intelligence, however critical or original, can operate outside such a fiduciary framework.[14]

Within the generalised system of Belief, we can distinguish four aspects: Integrity, Trust, Belief (in a more specific sense) and Faith. *Integrity* is the first requirement for entry into the Convivium. The new practitioner of the scientific method must satisfy his peers that his data are honestly come by, and that he will freely share his findings with them. The second requirement is *Trust*; trust between practitioners is the glue that holds the Convivium together. The third requirement is *Belief*: closely allied to it is *Commitment*. It is simply not enough to 'entertain' a belief. The practitioner must be ready to follow it through to the bitter end, if need be, in order to establish truth. He must be ready to stake his reputation on his belief. As Polanyi puts it '*I believe that in spite of the hazards involved I am called upon to search for the truth and state my findings*.'[15] In following this programme, the practitioner will also convey his Trust in his peers and confidence in their Integrity. He will display readiness to accept their verdict on his findings, whatever the cost in time and reputation. Finally, there is *Faith*. Though there is a relationship of faith within the Convivium, I am applying this word specifically to describe the relationship between the practitioner and his field of endeavour. In the Convivium, this is the natural world. It implies a conviction that in the natural world there is an underlying propensity to order.

The psychotherapist Carl Rogers, the father of client-based counselling, describes his personal findings in the following terms:

1. 'I can trust my experience.'
2. 'I enjoy the discovery of order in experience.'
3. 'The facts are friendly.'[16]

Faith is needed in this context because, at first blush, the facts look distinctly unfriendly. In the real world, all truths are contingent: their reality requires it. The search for certainty is illusory. Hankering after certainty is like chasing a rainbow. Progress in Science was delayed until mankind conquered its fear of the unknown and learned not merely to accept uncertainty but positively to embrace it. Success however depends on one important condition: freedom to explore without constraint through free use of the scientific method. This was the intellectual heritage of two developments which followed the collapse of Christendom and the end of the Middle Ages: the Reformation and the Renaissance.[17]

In the natural world, Faith suggests that Truth is 'out there', ready to be extracted by persistent and methodical experiment. If the results are consistent, coherent and productive of new lines of endeavour, they are good enough to be going on with. As we know, the reward has been the growth of scientific discovery over three centuries, seemingly on an exponential scale. In contrast, social and religious liberty have faltered: their record in the 20th Century was dismal. The Personal Life is still under siege from the demands of the Functional Life, particularly in the field of economics. In his Law of Freedom, Macmurray is suggesting that 'we can preserve our Freedom now only by sharing it.' This calls for a leap of Faith in the field of personal relations which at present we seem reluctant to undertake. Yet, if we can trust the analogy from intellectual freedom and the scientific method, we must take this leap if we are to prosper in the field of personal relations as we have prospered in the intellectual field of Science.

6 Conclusion

The arguments from History, from Games Theory and by Analogy together lead to the same conclusion. The key to Freedom lies in the exercise of the Golden Rule, pursued in Faith.

Bath

Notes:

1. *Freedom. Its Meaning* ed Ruth Anshen (Harcourt Brace, New York 1940; Allen & Unwin 1942).
2. *Conditions of Freedom p. 11.*
3. Ibid. pp. 29, 30.
4. In 1941 Erich Fromm wrote a powerful book, *Fear of Freedom* (Routledge, 1942). Macmurrray himself confronted the issue of Freedom and Security in *Reason and Emotion* (Faber, 1935)
5. My italics.
6. For most of the historical material I am indebted to David Hackett Fischer's admirable *Albion's Seed: Four British Folkways in America* (OUP, *1989)*
7. In historical fact, Ordered Liberty has made its mark more clearly than the other three. It inspired the Four Freedoms—freedom of speech and conscience, freedom from want and fear—which Roosevelt declared in his message to the US Congress in January 1941 and which are now enshrined in the Universal Declaration of Human Rights.

Continued on p. 162

THE DOCTOR OF TOMORROW— PHYSICIAN, PSYCHOLOGIST, PHILOSOPHER: Towards the Cosmist-Hippocratic Ethics in Biomedicine

Konstantin S. Khroutski

ABSTRACT. Firstly, it is argued that contemporary medicine (and philosophy of medicine) is in a state of crisis, for they are incapable of comprehending and explaining the substance of the individual's health and the etiology (individual etiogenesis) of contemporary chronic non-infectious diseases (diseases of civilisation). Henceforth, following the basic thesis of Prof. Edmund D. Pellegrino (which pushes forward the requirement for 'some comprehensive philosophical underpinning for medical ethics'), here is originally advanced a new framework of ontological assumptions, called 'Absolute Cosmist Holism'. Further, from the hypothetical-deductive method of cognition here employed, there follows the deduction of the theoretical proposals, primarily of the basic epistemological principle of CosmoBiotypology. Next, the theoretical proposals (derived from the Cosmist ontology and the CosmoBiotypological principle) emerge; finally, the bioethical ones, of the Cosmist-Hippocratic essence. It is essential, that the whole philosophical underpinning is built on the Russian cosmist philosophical tradition of pan-unity and active evolution.

Key words: individual's health, holism, active evolution, creative creativity, CosmoBiotypological paradigm, Cosmist-Hippocratic bioethics.

Philosophy is a science and therefore, like every other science, it seeks to establish truths that have been strictly proved and are therefore binding for every thinking being and not only for a particular people or nation. Nicolei O. Lossky (Lossky, 1951, p. 402)[1]

1 Introduction

At the very beginning of our exploration the following position is clearly stated: We do not basically put the stress on today's severe crisis of health service in Russia;[2] likewise, we are not aimed at the analysis of any other health system in the world. Our end is different and definitive: to deal precisely with the crisis of the world mainstream—rational—biomedicine in relation to philosophical issues. At this point, we precisely attempt, using the hypothetical-deductive method of cognition, to ground a new holistic concept of biomedicine in higher-order philosophical (cosmological, ontological, epistemological, ethical) principles.

In this course we reveal, firstly, the current crisis of modern biomedicine: we precisely mean the total absence of a truly individual approach to a person[3]—modern biomedicine individualises but 'depersonalises' man [Zealberg, 1999, p.327]. Hence, in so far as modern medicine treats man exclusively as an abstract statistical unit[4], contemporary philosophy and science of biomedicine obviously do not consider the individual's health as a major philosophical and scientific problem.

That is the first evidence which shows clearly the current crisis. The other point is that modern biomedicine is impotent to conduct the truly individual—etiological—approach at the investigation of appearance and pathogenesis of current chronic non-infectious diseases (the so-called 'diseases of civilisation').[5] The substantiation of the actuality of the existing crisis in modern biomedicine is the substance of our first section.[6]

Secondly, as a normal philosophical reflection on the existing and clearly stated crisis situation in modern biomedicine, there follows the advancement of a new framework of ontological assumptions,[7] which precisely embrace (by their comprehensiveness) the whole existing inexplicable phenomenon of the individual's health. We call our system—'Absolute Cosmist Holism'. The whole second section is assigned to characterise this cosmist ontological system.

Thirdly, comes the phase of the deduction of theoretical proposals themselves, primarily of those, which have the basic substance. Thus, in the third part, we endeavour to base the crucial principle and the basic exploratory paradigm of CosmoBiotypology—of the unity of man's subjective knowledge and the objective knowledge about man, and the unity of natural, social and human scientific knowledge about man.

Fourthly, we advance the theoretical proposals of the second order (already on the basis of CosmoBiotypological principle) of applied theoretical principles. By this we attempt to show the ability of the newly proposed paradigm to unite the heterogeneous theoretical knowledge, including the advancement of a new integrated approach in biomedical ethics—of Cosmist-Hippocratic essence. We necessarily rely here on the works on bioethics of Prof. Edmund D.Pellegrino, which are unique, disclosing the historical development of the subject of biomedical ethics.

Fifthly, in the conclusion, we derive our conclusive formula: necessarily, the doctor of tomorrow ought to be simultaneously physician, psychologist, and philosopher.

We also have to lay stress on the two following essential points:

(1) That we are framing in our work precisely the new level of ontological (cosmological, epistemological, ethical) comprehending of a person's well-being—of individual's health; hence we naturally go beyond and do not touch at all (in the work) the current[8] discourse on the subjects of health and disease (illness). In so far as the latter is naturally held within the limits of the dominant[9] biomedical philosophical, ethical and scientific paradigm, it reasonably carries no usefulness for the attainment of the specific goals of our exploration undertaken here.[10] Of course, in this projkect, the illumination of the limitations of the existing biomedical paradigm and elucidation of the need of the newly proposed paradigm take a considerable place in the text below. Significantly, at this point,we stress once again, that we are ultimately aiming precisely at a new, all-explaining conceptual framework.[11]

(2) Therefore, we are highly ambitious to overcome the state of pluralism, scepticism and nihilism of modern philosophy and biomedicine (bioethics) and, ultimately, to regain the already lost unity of thought. What inspires confidence in us in this way? This at least, that the universality of the living world of the Earth is a matter of fact in natural science. Henceforth, our goals and endeavours are quite natural and timely; and we hope for the favourable attention of our readers. At any rate, our work is a straightforward move in the direction of a more comprehensive, holistic and personalist approach to medical practice, medical ethics and medical education.

2 The crisis in biomedicine calls for a new scientific paradigm

Ischemic heart (coronary artery) disease is one of the most significant chronic non-infectious diseases and causes of human mortality. At the same time, the basis of coronary artery disease is atherosclerosis—'the slow development of areas of thickening in the coronary arteries . . . called atherosclerotic plagues, or atheromatous lesions' (Atherosclerosis, 2001). Herein, two major factors determine the growth of atheromatous lesions: 'One is the accumulation of cholesterol at the areas where the thickening occurs and the other is the incorporation of minute clots, or thrombi, into the endothelial (inner) surface of the artery.' [Ibid.]. Atherosclerosis is a major form of arteriosclerosis, and the latter is a 'chronic disease characterised by abnormal thickening and hardening of the walls of arteries, with a resulting loss of elasticity.' (Arteriosclerosis, 2001). In other words, atherosclerosis is an autonomous chronic disease (just as ishemic heart disease itself) of the whole human organism. Hence, we have then, that the cause of one chronic disease (ishemic heart disease) is established in the existence of the other chronic disease (atherosclerosis). In this, however, it is considered that the accumulation of cholesterol in atherosclerotic lesions 'is primarily determined by genetic factors but can also be influenced by environmental factors, such as a high-fat diet' (Atherosclerosis, 2001).

It is essential, at this point, that the genetic—molecular—level, although a basic one, is merely one more level of man's whole universal organisation. Hence, general philosophy on the whole and the philosophy of medicine in particular[12] either:

(a) Establishes an 'iron curtain', separates Man from the existing surrounding World, and then reduces the problem of a chronic disease to the genetic level, or to any other part of an organism, thus acting exclusively within the limits of man's organism; or

(b) Places Man and World 'on the different sides of a barricade'—on the counteracting positions, and then considers the harmful factors of the environment as the cause of a chronic non-infectious disease.

In both cases, however, current general philosophy and philosophy of medicine deal not with a reality, but precisely with unreality. Really, at least since the year 1953 we know the absolutely incontestable fact of natural sciences—Man and Earth's living World, the entire evolutionary process of Earth's life is a single whole. We mean the discovery of the structure of DNA by Watson and Crick, which proves the unity of all kinds of life on the Earth and the genetic transmission of psychic character by DNA molecules.

As a result, contemporary civilised man[13] is, in fact, deprived of the right to have the information on his individual health. In other words, he has to become already diseased,[14] to make the impressive power of modern biomedicine turn to help him/her. But it is nearly impossible, at present, to attract existing enormous biomedical[15] capacities to assist man in putting into operation his individual 'factors of well-being', that would guarantee his health—the individual 'state of complete physical, mental, and social well-being and not merely the absence of disease and infirmity'.[16]

Henceforth, the crisis under consideration—the impotence of contemporary biomedicine to comprehend the phenomenon of individual's health and to originate the etiologic exploration of the causes of modern chronic non-infectious diseases—directly stems from the crisis of philosophy in general and philosophy of medicine in particular.

One of the straight corroboration of the continuing crisis of contemporary philosophy and science[17] may be seen in the fact, that modern biomedicine is strictly based on pluralistic foundations. The current pluralistic development is 'natural' in the historico-cultural settings of the evolution of (post)modern Western civilisation, but it is not natural (and just unnatural) from the point of view of the natural sciences. First of all, Earth's life is the universal evolutionary process (Process).[18] That is a matter of fact in life sciences: all

Earth's organisms, primarily, have a sameness of basic structure, composition, and function. All forms of life on the Earth have, as it was already stated above, the same chemical substance, deoxyribonucleic acid (DNA), in the form of genes, which accounts for the ability of all living matter to replicate itself exactly and to transmit genetic information from parent to offspring. Likewise, all living organisms, regardless of their uniqueness, are composed of the same basic units, or cells, and the same chemical substances. The latter, when analysed, exhibit noteworthy similarities, even in such disparate organisms as bacteria and man. Furthermore, since all cells interact in much the same way, the basic functioning of all organisms is also similar.

Secondly, Process is an autonomous subject and has the character of an ascending emergent evolution: independently of our interpretation of its origin, Process successfully self-evolves from a bacteria up to a modern civilised society and positively demonstrates to us:[19]

(a) the actualities of the hierarchically ascendant and integrated levels of Earth's life (of successively increasing complication): of a molecule, organelle, cell, tissue, organ, organism, biocenos (ecosystem), biosphere, human being, family, social body, community, society, civilisation; the next integrity naturally should be the whole of mankind;

(b) the actualities of ascending emergences: the origin of life, the origin of nucleus-bearing protozoa; the origin of sexually reproducing forms; the rise of sentient animals, with nervous systems and protobrains; the appearance of cogitative animals, namely humans; further occurred the historical emergence of families, social bodies, communities, societies and civilisations; once again, the next integrity naturally should be the whole of mankind.

Finally, one more incontestable fact, that is the 'cosmic origin of the life on the Earth'. In reality, the entire Earth's living energy and substance originates from the cosmos. At any rate, be it (the origin of life) the result of a supernatural cause; or be it the spontaneous rise from non-living matter; or be it the panspermia; or be it the effect of Big Bang; or the result of a series of progressive chemical reactions, etc.,—in all cases life is a cosmic phenomenon (springing from the cosmic energy and matter). This fact does not depend upon any of the aforementioned hypotheses. Each of them has the equally transcendent character and states the fact of the origination from the cosmos of life on Earth.

The other straight corroboration of the continuing crisis of contemporary philosophy and science follows from the existence of the so-called 'paradox of creativity'. The latter means that modern man, being a Creature of Nature, actively creates and materialises the social and ecological forms of his existence on the planet Earth and actually steers the whole planetary life process. But, at the same time, no less than about 90% of all existing risk factors of 'modern' non-infectious diseases have a human ecological and social origin, thus, the one resulting from man's—a Creature of Nature—'creativity'. 'Current global crises are all man-made and essentially products of human values and beliefs' (Sperry, 1986, p.414)

In other words, 90% of all chronic diseases are anthropogenetic. Hence, the entire armada of modern diseases of civilisation[20] actually stems from contemporary cosmological, ontological, epistemological, and axiological incompetence and lack of wisdom of (post)modern philosophy, science and man. At least, as far as bioethics is concerned, Prof. Pellegrino holds, that 'the period of crisis' has indeed come; all that is determined by the 'parlous state of contemporary philosophy and ethics and the strong current of nihilism and scepticism in both fields'. The latter also is clearly expressed in the generally accepted denial of 'arriving at any truth through philosophy and the relevance of any theory of reality' [Pellegrino, 1993, pp. 1161-1162].

Hence, 'what is required is some comprehensive philosophical underpinning' [Pellegrino, 1993, p.1161]. Likewise, Sir Alfred North Whitehead stated in his time:

Philosophy will not regain its proper status until the gradual elaboration of categorial schemes, definitely stated at each stage of progress, is recognised as its proper objective [Whitehead, 1967, p.12].

Ultimately, one point seems to be clear: to cope with the crisis of modern biomedicine[21] we obviously need to create a new framework of basic ontological assumptions, that should be well founded for the deduction of true theoretical proposals, reliable, in their turn, for the substantiation of rational comprehension and cognition of the individual's health and the individual etiogenesis of chronic non-infectious diseases.

In our case, we find the philosophical fundaments of the philosophical tradition of Russian cosmism to be the most suitable for our purposes. Svetlana Semenova[22] reveals the following common generic features of the cosmic, active-evolutionary direction of philosophical and scientific search, realised in Russia during the last century:

First of all, that is the understanding of the ascending character of evolution, the growth of the human mind in it and the recognition of the necessity of a new, deliberately active stage... the idea of creative destination of man triumphs. A new view on man is appearing: not only as on a historical social actor, biological or existential subject, but, likewise, as on the self-evolving, self-transcending, cosmic subject. (Semenova, 1993, p.32).

Another valuable cosmist position, as argued by

Valeriy Sagatovsky, [23] discriminates the meaning of the notions 'culture' and 'civilisation':

Culture might be defined as a process and the result of human activity, the meaning of which is concluded precisely in the realisation of the certain values or meanings of life. Civilisation is appropriately the system of means, which provide the effective realisation of values, meanings of culture. (Sagatovsky, 1994, p.14)

3 The ontological system of 'Absolute Comist Holism'

Precisely following the ideas of Russian philosophical cosmism and likewise pursuing 'the ideal of integral knowledge—i.e. knowledge as an organic all-embracing unity, proclaimed by Kireyevsky and Khomiakov...' (Lossky, 1951, p. 404), we advance here our own—Absolute Cosmist Holism—system of ontological assumptions (ACW system). But first of all, we introduce here the new—cosmist—definition of the term 'subject': our subject, due to the universality of the one common evolutionary process (Process) of life on the Earth, means any of Earth's living organisms, from a molecule up to the highest social and ecological organismic forms. Now, we are entirely ready to put forward the ten most essential constitutive principles of our ontological framework:

(1) Principle of the universal functional integration: 'all living is a whole, functionally integrated subject'.

(2) Principle of the universal emergent evolutionism: 'all living–any subject—is the process': every subject (a person) evolves simultaneously through an increasing capability of adaptation to the influences and requirements of actual environment, as well as through its/his integration into the ascending (in complexity) levels of biological, regional or whole Earth's living ecological (social) integrity: of a molecule, organelle, cell, organ, bio-organism, ecosystem (biocenos, biosphere), human being, family, community, social body, society, the next integrity step inevitably should be the whole mankind.

(3) Principle of creativity—'man is a creator': here we introduce and discern two categories of human creativity: adaptational creativity and cosmist creative creativity.

(a) Adaptational creativity (micro-evolutionary, actual, constructive c.). It largely conforms with Karl Popper's evolutionary emergentism—the constant production of novel, tentative, behavioural and cognitive patterns through actual problem-solving in the present situation; here, man expediently uses the method of trial and error, as well as effectively exploiting existing scientific and cultural material (Popper's 'world 3'); the means of positivism, rationalism, eclecticism, subjectivism, existentialism and phenomenology are equally relevant herein; man's adaptational creative activity ends ultimately in the attainment of the highest level of stability of his existence in the given environment.

(b) Creative creativity has the synonyms of 'macro-evolutionary, ascending, cosmist creativity'. It is a creative activity personally gratifying man, which is aimed at the production of specific (functional) personal effects or results making possible, eventually, the person's future well-being integration into the successively higher emergent level (absent in the present reality) of his ontogenesis. In other words, creative activity is the realisation and manifestation of the basic functional ability of a person to carry out his specific inclusion into the wholeness of the new higher emergent macro-level of the man's well-being ontogenesis.

(4) Principle of the unity of evolutionary levels—of 'man's constant active creativity': at every period of man's postnatal life he is involved as in the necessary micro-evolutionary processes of the current level of adaptation of his well-being, from 'infant forms up to mature form of stability' (metaphorically, 'from assistant to professor'); and, at the same time, ought to be—for the sake of his well-being and health—constantly integrated into the macro-process of his gratifying personal cosmist creativity: to produce the effects and gain the results of that activity and to make them available (and noticeable for the selection) for the higher integrated level of man's future existence (well-being).

(5) Principle of the cosmist hierarchy of evolutionary levels—'of the managing priority of the higher level'. That is, the managing units of the higher levels always have the priority to select and exploit the functional abilities (and activities) of the whole units (subjects) of the lower levels in order to realise the effect and gain the result of the (need of) integrated well-being of a given higher level: of a molecule, organelle, cell, tissue, organ, organism, ecosystem, biosphere, human being, family, social body, society, the whole mankind.

(6) Principle of the cosmist functionalism—every subject of the lower level, from a molecule up to a modern civilised society, is the Function of the higher, uterine, whole organised subject (level): a molecule of a cell, man of a family or a social body, social body of a society, society of Process itself.

(7) Principle of the evolutionary selection from above—'evolutionary selection from the emergent future'. Basically, evolutionary selection is not exclusively the 'survival of the fittest' in the present environment, but, mainly, it is the realisation of subject's specific ability and the compliance of the subject's (man's) gratifying personal abilities and activities (and the effects and results of these activities) with the needs of the coming, higher level of his integrated being. Thereby, we get the 'natural' selection of a functionally suitable subject from the lower for the satisfaction of needs and requirements of

the higher (above) organised level of reality, 'from the future'.[24] Herein, for example, the actuality of a certain school is absent in the current being of a child, but precisely the school administration would soon select (or would not select) this child for entering this school; similarly, the university board would select (or would not select) our future schoolboy(girl) for entering the university; likewise, the manufacturer manager would further select (or would not select) the graduate student for the vocational body; etc.

(8) Principle of the particular role of modern man in the well-being of the one common cosmic evolutionary process of the life on the Earth (Process): 'the future well-being of common Process—of Earth's life—entirely depends on the man's deliberate cosmic creative activity'.

(9) Principle of personal functional élitism: the meaning of man's life is embedded in the successful ascendant evolution of man through all macro-levels of his ontogenesis for the ultimate achievement, in the period of maturity, of specific (cosmist) personal macro-level of his being, to realise here the man's personal specific (functional, of élite selection) contribution to the well-being of common whole Process.

(10) Principle of subject's individual well-being—'the subject's well-being directly depends on the extent of one's belongingness and integration into Process'. Subject's (individual) well-being is a process of the execution of one's predetermined functional (cosmic) assignment. It includes: a) the stage of macro-evolutionary ascent through the all given social macro-levels of man's being and well-being,[25] directly to the level of creative personal activity itself; b) the stage of man's direct specific (functional) contribution to the well-being of one common Process.

The whole ontological system of Absolute Cosmist holism (ACW-system) comprises two crucial theses:

(1) Equally with the notions of biological evolution and social evolution (history), the notion of the personal cosmist evolution of the free civilised man is characterised as the present-day forefront of Process. The further well-being of Process does not depend nowadays neither so much from the biological evolution (it reached its high point in the emergence of Homo Sapiens animalis), nor from the social evolution (reaching its high point in the emergence of contemporary Western civilised society and Homo Sapiens sapiens). Further continuation of the evolution is to-be-mission of a new evolutionary active subject—Homo Sapiens cosmicus: the man, who is free from physical, biological, ecological and social harmful and oppressing influences, and who is ready to realise his creative specific functional ability and contribute personally to the preservation and continuation of Process.

(2) Likewise we introduce here a new notion and definition of the individual well-being of man (of individual's health),[26] based on our cosmist dialectical stand: 'The individual's health is the successful cosmist unity of adaptational and creative processes of the human organism and personality.'

In other words, the individual's health is the 'process of processes' ('ontogenesis of ontogeneses') of man's well-being. It comprises:

(a) man's successful specific (functional, cosmist, personal) ontogenetic, macro-evolution, the process of transcendence of the whole man's being on the successively higher hierarchical levels (of ascending emergent complexity); and at the same time,

(b) the regular and necessary man's micro-evolution, the process of man's successful adaptation and development from the stage of initial elementary (infantile) forms up to the stage of mature stable forms of the man's integrated well-being on the given macro-evolutionary level.

It would be relevant, at this place, to distinguish between our cosmist definition of health and the metaphysical one of WHO (of the year 1946). Both approaches are of true holistic essence. At the same time, however, WHO's approach treats man's health (well-being) as a state, therefore—as a product of the present, although being realised in the man's continuous interrelationship with his dynamic, temporal, social and cultural worlds. Hence, what are the main factors, which determine the current 'metaphysical' individual's well-being (health)? Naturally, they are the factors and occasions, which a) have taken place in the past and are acting in the continuous present;[27] and b) have the external (environmental, in broad sense) origination. Essentially, man here is deprived of the right to have[28] his specific (personal) emergent future.[29]

At this point, we necessarily are to give our cosmist's definition of the notion of the future: the cosmist's future has not the temporal essence, but means precisely the new successively coming integrated level of the subject's (man's) being and well-being.[30] At the same time, in our context, the term 'emergence' has the accepted (in evolutionary thinking) meaning of the rise of a system that cannot be predicted or explained from antecedent conditions.

Current world mainstream (Western) philosophy and science easily recognises the process—up to the mature forms—of man's social and cultural growth, but it denies the universal essence of this process.[31] Thus, the existing Western 'metaphysicism' denies the status of Homo Sapiens cosmicus itself—of the Man subject, equal to other main Process's Subjects, i.e. Nature and Society, whose chief property is actively to transcend the successive social and cultural levels of the ontogenesis of his well-being in order to reach the ultimate cosmist creative level itself for the direct personal (functional) contribution into the preservation and continuation of one common Process.

On contrary, the ACW approach, although it

integrates in itself the World Health Organisation's meaning of health, chiefly defines health as process.[32] In other words, according to the cosmist paradigm, man is not only unitary whole with the surrounding world, but likewise a subject of the active self-actualisation of his ascendant—emergent evolutionary—process (personal ontogenesis). Hence, a researcher (a doctor) involved with investigation of the processes of psychosomatic pathogenesis[33] needs to discern the lines of the patient's adaptational (actual) creativity and creative (cosmist) creativity. As it was already stated above, adaptational creativity mainly operates in the individual's continuing physical, emotional, mental and social ability to cope with his environment. In contrast, creative creativity's operates, on every level of man's being, in man's rediscovery and realisation of his basic functional ability[34] and its exhibition in the results of man's specific (functional personal) activity.[35] In other words, psychosomatic health (well-being) derives as much from man's stability[36] with the actual surrounding world, as of the successful selection of the man's realised basic functional ability—from the successive future level of the ontogenesis of his well-being.

Still, however, (post)modern philosophy and science is unaware of man's integrity with Process[37] and, hence, of man's constant responsibility[38] for the revealing and realisation of his basic inherent functional ability, which necessarily and solely guarantees man his well-being (health) on the whole.

4 Universal epistemological realism: a CosmoBiotypological paradigm

The most essential consequence from our ontological ACW system is that we substantiate the principal equality of the three main units of the whole evolutionary process of the life on the Earth: they are Nature, Society and Man (Homo Sapiens cosmicus).

Reasonably, Nature (as an evolutionary unit) is necessarily needed for Process to produce Man him (as a new necessarily needed evolutionary unit). Further Man[39] creates and erects Society, up to the modern civilised forms. However, Society itself (even civilised Society), in principal, is not the end of the common universal Process, but just the means to free Man's creative abilities—as Process's means—to transcend (ascend) the whole evolutionary process of life on the Earth to its higher levels of integral well-being.[40] In other words, that is the absolute evolutionary expedience and necessity—to free Man from the harmful environmental forces (physical, ecological, societal), and to enlighten him culturally and equip him technologically to realise his (cosmic, inborn) functional ability to participate personally in the whole preservation and continuation of the ascent of one common Process to the future higher levels of its integrated well-being. Therefore, naturally, free civilised man—Homo Sapiens cosmicus (HSC)—is necessarily and expediently the present-day forefront unit of the preservation and continuation of whole common Process.

From this a significant theoretical proposal it follows[41] that the chronic non-infectious diseases ('diseases of civilisation') do not result from the harmful environmental—external, causal—stressing influences, but mainly transform from an excessive amount of the creative (internal, spiritual, psychic; of axiological and teleological character) energy of the person which has not been consumed during man's life cycle.

Henceforth, we must discern reasonably the 'natural, causal' diseases, which result from the influences of existing harmful environmental factors,,from the 'artificial, civilisational' ones, which 'come from within' and are caused—ultimately—by the cosmological, ontological, epistemological, and axiological incompetence of modern philosophy, science and man. This also implies that to solve the problem of modern 'civilisation diseases' (etiopathogenesis) we need to consider contemporary civilised man (HSC) from the cosmist ontological stand-point as a person naturally predetermined to fulfil his specific functional (cosmist personal) assignment, to contribute ultimately and directly to the well-being of a new successively higher evolutionary level of Earth's living integrity.[42]

It is also in this context that we call philosophers to discriminate two different macro-ends for biomedicine:[43]

(a) to preserve man's well-being (the individual's health)—to optimise man's (including creative) energy for the neutralisation of current harmful environmental influences, and/or to treat man—to help his organism to rehabilitate the already damaged structures;[44]

(b) to have health—to help man to reveal his own personal unique perspective and further to find his personal field of creative application and, thus, to realise and expend his organismic creative energy for the sake of man's specific active contribution to the well-being of the next future ascent in a higher level of his integrated well-being.

The other crucial consequence, issuing from the ACW system, states the unity of man's subjective knowledge and the objective knowledge about man, as well as natural, social and human scientific knowledge about man's well-being. Really, if any subject (organism) is an integrated inseparable part of one common ascending (self-evolving) Process, then equally the natural (gratifying) subjective perceptions of man,[45] his appropriate social and cultural settings,[46] and his whole biological normality,[47] naturally serving the fulfilment of the man's basic specific[48] assignment (function) in the appropriate social and cultural settings,[49]—all are uterine and universal, as they all are the functional parts and appearances of one common whole Process.

Herein, we stress and welcome WHO's preference for an holistic strategy, which explicitly realise itself, for instance, in WHO's position, calling for a 'change of attitudes and organisation of health services, which refocuses on the total needs of the individual as a whole person' (*The Ottawa Charter*, 1992, p.6)

Likewise, we find some similarity in the definition of health by Prof. Lennart Nordenfelt,[50] who states that: 'P is completely healthy, if and only if P has the ability, given standard circumstances, to realise all his or her vital goals.' (Nordenfelt, 1993, p.280)

We can also make an attempt, at this point, to propose the universal law of CosmoBiotypology. This law states: Every living subject on Earth is ultimately the subject of the execution of the natural (more definitely, in our context,—cosmic) function of one common Process, and thus naturally bears the biotypological traits of this functionality. In other words, each subject has its biologically predetermined traits (biologically inherited integrated peculiarities), specifically predisposed within the whole organismic organisation precisely for the realisation of the inherent evolutionary (cosmic) assignment of the subject.

At any rate, as it refers to biomedicine, we repeat once again the core principle of our ACW system, that the meaning of man's life is embedded in the successful specific—functional personal cosmist—contribution to the well-being of one common whole Process. This implies that the meaningful valuable directivity—'route'—of the civilised man's life is cosmocentric and predetermined, as well as it is naturally evolutionary embodied into a specific integrated biological form (type) of human organism (with its positive biotypological peculiarities), predisposed for the optimal execution of the inborn cosmic functional assignment (in the objectively given social and cultural circumstances). Here there is certainly the opportunity for bringing together the biological constitutional peculiarities of man's organism with his predetermined cosmocentric assignment[51] (and, necessarily, with the given surrounding circumstances), and, hence, for the origination of the new epistemological and scientific paradigm in biomedicine—of CosmoBiotypology.

This line of development potentially forms exactly the true humane (Hippocratic) line of biomedical evolution being organised precisely both (a) at the rational (scientific) universal comprehension of the personal well-being of man—of his individual health, and (b) at the reveal of etiologic (individual) causes of the chronic non-infectious diseases.

Herein, we contrast with the proposed 'true humane (Hippocratic)' line, the generally existing and accepted 'normal'[52] medicine, which we term 'Humane Civilisational medicine. This trend of biomedical activity is directed at the exploration of all the causes and mechanisms (of pathogeneses), and the conditions of appearance of all the existing illnesses,[53] and the consequent taking possession of all the methods of their radical treatment or neutralisation. Obviously, however, this line of biomedical activity[54] is impotent, in principal, to consider the internal specific (in relation to an individual) causes (primary mechanisms) of the appearance of chronic diseases, not to mention the substance of the well-being (health) of a man not yet taken ill.

5 Universal ethical realism: new integrating Cosmist-Hippocratic approach

Referring to biomedicine, we ought to remember that the modern rational medicine itself was established (25 centuries ago) on strictly biotypological foundations. Hippocrates, the father of medicine, relying on the cosmology of Empedocles, precisely set his medicine on biotypological origins. According to his humoral theory, the general health of man entirely depends on an appropriate balance among the four bodily humors (blood, black bile, yellow bile and phlegm).

At present, as it is commonly known, biotypological epistemology and methodology survives a severe crisis. Nowadays, Russian academician V. Dolgikh (Dolgikh, 1997, p.27) defines Constitutionalism as:

a trend in medicine according to which the constitutional peculiarities have the decisive significance for the appearance and flow of a disease... That doctrine is antiscientific and reactionary. Fascism and racism are basing on that doctrine.

In our turn, we entirely raise an objection against the disposition to consider constitutionalism as an end. Constitutionalism is always merely a means. Just as F. Marino tells us, 'Biotypology is the study of the constitution and the temperament of the human being in health and sickness' (Marino, 1999, p.17) and nothing more. It is also important to note, that 'biotypology is the comprehensive study of a human being'; and it is, therefore, 'a typical example of "holistic" thinking.' (Ibid, p.17).

As Carsten Timmermann forcefully shows it in his exploration, there occurred in artificial manner (in interwar Germany)—under the name of Hippocrates—the 'peculiar combination of élitism, declinism and idealist ideology'. The origin of that phenomenon was outside of biomedicine lying in the artificial (unnatural) hegemony pretensions of the politicians of the Weimar Republic and the 'Third Reich'. In outcome, some German physicians—adherents of Neo-Hippocratism (such as Bier, Much, Liek), believing in the élitism of medical profession and that 'the health of the community is higher than that of the individual'—actually did not 'induce resistance but rather compliance with the Nazis' "biological politics" and SS élitism' (Timmermann, 2001)

But, once again, we ought to state it as soundly as we can: Hippocratic constitutionalism—as an universal rational method—is the only one which allows the comprehensive cognition of the individual substance of

man's health and illness. Simultaneously, it is always a means, but never an End. Hippocrates himself considered exclusively the health of man and never dealt with the health of society. He never pointed out that the 'health of community is higher than that of individual'; or that the élitist art of a physician could be turned into the harm for a patient. But Hippocrates stated the great thing, as Aschner emphasised it for us, that 'the majority of all diseases does not come from without (like injury or infection), but from within...' (Aschner, 1941, p.262).

With this in mind, we need today the recovery of the genuine Neo-Hippocratism principle, precisely as Castiglioni—an author, in 1926, of the very expression of Neo-Hippocratism (we cite here, Aschner B. 1941, p. 262)—stresses it to be 'synthetic, cosmic, constitutional, humoral, biological, dynamic, and artistic...'. Finally, the time has come for us to use the Hippocratic universal approach in a really humane perspective—to realise the substance of individual's health and the individual etiogenesis of chronic non-infectious diseases.

To draw a conclusion, we are convinced that the existing crisis of Hippocratism and biotypology is not the consequence of the weakness and incorrectness of the biotypological method itself, but precisely is caused by the existing world's philosophical (cosmological, ontological, epistemological, ethical and methodological) incompetence with respect to constitutionology.

It is essential, herein, that Hippocrates was a genuine cosmist and holist. He considered man as a 'microcosmos', a universal and inseparable unit of the whole surrounding world or 'macrocosmos'. At the same time, in our context, Hippocrates was a 'cosmist metaphysician', but not a 'cosmist dialectician': he considered the surrounding social world of Ancient Greece as a state, as the final stage of cosmic evolutionary process.[55]

The basic point of our discourse is, however, as it was already stated above, that we discriminate two macro-approaches for solving the mega-problem of the individual's health: the Metaphysical and the Cosmist Dialectical one. The metaphysical approach treats human health as a 'state'. In contrast, the cosmist dialectical approach, primarily, considers the evolutionary process of life on the Earth as the universal autonomous common ascendant emergent and ever continuous process (Process) in its substance. Here man (HSC) is established as the forefront unit of this whole Process: he is (a) responsible for its continuation; and (b) his personal well-being (individual health) is a strong, but implicit function of the extent of belongingness to Process.

At any rate, Hippocrates was a true cosmist and holist. We believe now, the historical time has evidently finished its ascending evolutionary circle and crosses, in our days, the point of the beginning of a new epoch of spiral evolutionary ascent—now of CosmoBiotypology, basing on a new ACW ontology. At this point, the level we are trying to substantiate is primarily the emergence of the cosmist axiology, which unites 'value' and 'fact'. In other words, cosmist axiology is precisely the level of world philosophy and science, which, basing itself on the ACW ontology and CosmoBiotypological epistemology, rationally links the subjective (satisfying, desirable) intrinsic values of man[56] with the really existing (given) objective values and demands of the surrounding world (physical, ecological, societal), as well as with the biological peculiarities of man's whole organisation (man's biotype).

Referring further to the bioethical issues, we cannot pass over the prominent contribution to the philosophical exploration of medical ethics—Prof. Edmund D. Pellegrino's analysis 'The Metamorphosis of Medical Ethics: A 30-Year Retrospective' (Pellegrino, 1993, pp. 1158-1162).

We highly appreciate in this the advanced scheme of 'four somewhat overlapping periods':
(1) 'The quiescent period' of the Hippocratic ethics, which was virtue based.
(2) 'The Period of Principlism', which arouse since the 1960s on the ground of principle-based moral theories. That is the period of the dominance of the tetrad of principles for biomedical ethics—'nonmaleficence, beneficence, autonomy, and justice.' The first two were 'synonymous with the Hippocratic obligations to act always in the best interests of the patient and to avoid doing harm'; but 'two others, autonomy and justice, were unfamiliar... antithetical to the traditional ethic.' The principle of autonomy, in particular, 'directly contradicted the traditional authoritarianism and paternalism of the Hippocratic ethic that gave no place for patient participation in clinical decisions.'
(3) 'The Period of Antiprinciplism',—reaction to the limitations of principlism, which mainly disclosed that 'principles ignore a person's character, life story, cultural background, and gender'; and decried 'the lack of a unifying moral theory that would tie the principles together and ground them conceptually.'
(4) 'Period of Crisis', which pushes forward the requirement in 'some comprehensive philosophical underpinning for medical ethics that will link the great moral traditions with principles and rules and with the new emphasis on moral psychology.'

The latter is just what we are aiming at—striving at the resolution of that 'real question', which is 'as old as moral philosophy itself. . . . how to go from universal principles to individual moral decisions and back again.' It is, at this point, also important that, like our dispositions, Prof. Pellegrino, favouring both the virtue theory and principlism, endeavours to integrate them, as for example (together with Thomasma), by the advancement of the principle of 'beneficence-in-trust'. At the same time, therein is stated that: 'Virtue theory

must be anchored in some prior theory of the right and good and of human nature in terms of which virtues can be defined.' (Pellegrino, 1993, p.1161).

Hence, we draw here a conclusion: a rational universal approach[57] should be followed, and this approach should be able to tie together the subjective (autonomous) knowledge of man with objective knowledge about man, thus opening the objects of the 'right and good' for the rational analysis. That is precisely the feature of the advanced cosmist dialectical philosophy, which is based on the ACW ontological system, and practicable through the cosmist axiological approach, acting within the sphere of the CosmoBiotypological paradigm.

In other words, we argue here the following: We ought to rehabilitate the True Humane Hippocratic line of the integrated rational individual—biotypological—consideration of man and a patient. In its turn, biotypological approach must acquire the universal monistic—Cosmist—character: to be transformed into CosmoBiotypology on the basis of philosophical cosmology and ACW-ontology. This—CosmoBiotypological – paradigmatic approach entirely encompasses both the principles of the virtue theory and of the 'principlism', including, in a natural manner,—the principles of autonomy and justice; as well as Cosmist-Hippocratic bioethics naturally and necessarily engages in the consideration 'a person's character, life story, cultural background and gender.'

6 Conclusion

Finally, in our cosmist discourse, we propose the following thesis: Necessarily, the doctor of tomorrow should be simultaneously physician, psychologist and philosopher.

In this, however, a series of questions easily arises, of the kind: How can doctors be physicians, psychologists and philosophers when they have so little time? Or, which kind of therapy would the doctor (physician/psychologist/philosopher) recommend to his patient suffering from modern chronic non-infectious diseases?

Actually, medicine is complex and multi-disciplined with each speciality trying to cure specific illness in its field of interest. Each man, however, is indisputably a single, whole entity, being simultaneously the organism and the integrated unit in the surrounding world (in the higher organism). Hence, his health (well-being) is the well-being of the whole man and the wholeness of the individual with the world. In other words, in the cosmist context, man is always the subject and process of as much adaptational essence, as of the emergent ascending (transcending) on the future higher successive level of the individual's well-being.

Therefore, we naturally refer our material precisely to the most general clinical speciality—family medicine (a doctor of general practice), who treats and observes his patients for a long period of time. Naturally, as well, we imply the integration of the teaching of basic sciences, clinical sciences, psycho-social issues and of the humanities throughout the curriculum at the higher medical school. The main point, however, is the recognition of the cosmist philosophical trend as a genuine and leading one.

Demonstrating these positions, the following example could be helpful. Let us take the case of essential hypertension,[58] precisely of the hypertensive crisis—the state of highly elevated blood pressure. First of all, in this case, our doctor ('of tomorrow') acts as physician:

(i) independently of the sociocultural characteristics of the patient and in the strong accordance with the directives of the evidence-based medicine[59], he objectively studies the signs and symptoms, makes an accurate diagnosis and gives the course of adequate medicinal treatment, thus eventually achieving the normal readings of the blood pressure.

(ii) Furthermore, our doctor successively acts as psychologist: he inquires about the reasons for the emotional stresses,[60] which strike the patient and cause the hypertensive crises themselves. Having discovered the psychological[61] reasons, our doctor instructs the patient how to adjust more effectively to his surroundings and thus to escape the situations in which the stresses arise and blood pressure subsequently increases.

(iii) Ultimately, our doctor acts as philosopher: he helps the patient to reveal and realise[62] the new route to well-being [63] for his whole life that would eliminate in principle the situations which cause stresses and the consequent increases in blood pressure.

It is essential, as regards the socio-cultural environment of the patient, that at the first stage (of physician) our doctor mainly considers his patient 'BEYOND' the given socio-cultural conditions; on the second stage, acting as psychologist, 'UNDER' the socio-cultural demands; and, thirdly, being philosopher, 'WITHIN' the given socio-cultural circumstances.

In the end, we conceptually state that the doctor of tomorrow ought to be able:

(1) As physician: to exercise the physical examination of a patient and to make a diagnosis, basing on the objective study of the signs and symptoms of a disease. Man here is an object, and the chief goals are to determine the nature of a disease, to give the course of adequate treatment and to reach the full rehabilitation of man's biological structures and functions—the recovery of the patient (the achievement of his 'physical well-being').

(2) As psychologist:[64] to examine a patient from the psychological and sociological stands (equally as an object),[65] and to give the course of adequate rational psychotherapy,[66] aimed both at the treatment of emotional, behavioural, personality disorders, as well as optimising the patient's interpersonal and interactive skills which would help him to adjust to the existing requirements of the given social surroundings. This

level includes necessarily the psychology of health, which learns and leads man to avoid and to neutralise the existing harmful risk factors, and, simultaneously, to exploit the healing factors of the given environment. Hence, the second level of doctor-patient interrelations directly leads to the achievement of the 'social well-being' of the person.

(3) The third– philosophical—macro-level of the doctor's activity is the level of precisely subject-subject interrelations and exactly the level of the application of the cosmist dialectical philosophy and the deduced theoretical proposals and methodologies, based on the CosmoBiotypological paradigm; and, equally, exploiting the already existing means of humanistic psychology. This level of doctor-patient interrelations leads precisely to the 'mental well-being' of the person. It is essential, that here—on the philosophical level—a doctor and his patient are partners in principle; moreover, the subjective (autonomous) personal feelings, perceptions and cogitation of a patient (a person), relative to the choice of his current and the whole route[67] of well-being have the decisive significance, while the activity of the doctor-philosopher acquire mainly the quality of delicate assistance.

Finally, our 'doctor as philosopher'—that is a great challenge to the whole world philosophy to leave, to a considerable extent, its academic sphere and to focus chiefly on the practical problems of man's well-being.

In the latter, however, two great problems immediately arise: (a) the problem of generally accepted rational consideration (model) of the successively new higher level of Process's integrated well-being– of the coming wholeness of future mankind[68]; (b) of a patient's (a person's) 'cosmist enlightenment', precisely enabling him to discriminate and choose independently the unique perspectives and ways towards his future integrated well-being. However, these both are the subjects for special consideration.

Institute of Medical Education, Novgorod State University after Yaroslav-the-Wise;
A/B 123, PO-25, Novgorod the Great 173025, Russia.
E-mail: hrucki@mail.ru

Acknowledgements

The author is deeply indebted to Edmund D. Pellegrino who, in fact, is the initiator of the whole project, and whose delicate accompaniment of the entire process (at least, since the year 1998) has played the decisive role in the completion of the whole work. The author would also like to thank all those who commented on earlier oral and written versions of this paper: Jozef Glasa, Lennart Nordenfelt, Valdar Parve, Walter Kofler, Giuseppe Benagiano, George Khushf, Andrew Chrucky, Akihisa Takahata. On the completing stage of the work, helpful comments are gratefully acknowledged from Ingemar Nordin.

Bibliography:

Arteriosclerosis. (2001). *Encyclopædia Britannica*, http://www.britannica.com/

Aschner B. (1941). 'Neo-Hippocratism in Everyday Practice,' *Bulletin for the History of Medicine* 10, pp.260-271.

Atherosclerosis. (2001). *Encyclopædia Britannica.*

Dolgikh V.T. (1997). *Obschaya patophisiologiya* [*General Pathophysiology*] NSMA Press, N. Novgorod.

Khroutski K.S. (2000). 'Individual Health: New Definition and Ontological Background,' *Medical Ethics & Bioethics* (Bratislava), 7 (1-2), 14-17.

Khroutski K.S. (2001). 'Introducing Philosophical Cosmology,' *World Futures* (In Press).

Lossky N.O. (1951). *History of Russian Philosophy*, International Universities Press, Inc., New York.

Marino F. (1999). 'Biotypology I: Scope and History,' *British Homeopathic Journal* 88, pp. 17-19.

Nordenfelt L. (1993). 'Concepts of health and their consequences for health care,' *Theoretical Medicine*, 14 (4), 277-285.

Pellegrino E.D. (1993). 'The Metamorphosis of Medical Ethics: A 30-Year Retrospective,' *JAMA*, 269(9), pp.1158-1162.

Petlenko V.P., Veber V.R., Khroutski K.S. (1998). 'Strategitcheskaya perspektiva konstitutsionologitcheskogo razvitiya otetchestvennoj ekologitcheskoy meditsinye' ['Strategic perspective of the constitutionological development of the ecological medicine of our country'] Ekologiya tcheloveka [*Human Ecology*] 2, 11-17.

Sagatovsky V.N. (1994). *Russkaya Ideya: Prodolzhim li Prervanniy Put?* [*Russian Idea: Shall We Continue the Aborted Way?*]. "Petropolis" Press, St Petersburg.

Semenova S.G. (1993). 'Russkiy kosmism' [Russian Cosmism] /In *Russkiy kosmism: Antologiya philosophskoj miysli* [*Russian Cosmism: Anthology of Philosophical Thought*], S.G. Semenova and A.G. Gacheva, (eds.), Pedagogika-Press, Moscow, pp. 3-33.

Sperry R.W. (1986). 'The New Mentalist Paradigm and Ultimate Concern,' *Perspectives in Biology and Medicine* 29 (3), pp. 423-423.

The Lancet (1999). 'Health in Russia is broke, but who is to fix it?' *Lancet*, 353 (9150), 337.

The Ottawa Charter for Health Promotion. (1992). WHO Regional Publications, European Series, 44, pp. 1-7.

Timmermann C. (2001) 'A Model for the New Physician: Hippocrates in Interwar Germany,' in *Reinventing Hippocrates*, ed. David Cantor, pp. 307-329. Aldershot: Ashgate.

Zealberg J.J. (1999). 'The depersonalization of health

care,' *Psychiatric Services* 50 (3), pp. 327-328.

Notes:

1 This passage opens the chapter 'Characteristic Features of Russian Philosophy' in N. Lossky's book *History of Russian Philosophy*.

2 Although that is a very acute problem (*The Lancet*, 1999, p.337).

3 As concerns current biomedical philosophy and science.

4 Although modern medicine admits the uniqueness of man's individual bio-organismic or psycho-social characteristics, it sees them exclusively as variables within the common range of a given trait, i.e. as the biostatistical norm and its possible deviations.

5 Briefly listing the 'diseases of civilisation' (in relation to chronic non-infectious diseases), we include here the following ones: (1) Cardiovascular diseases of atherosclerosis genesis (coronary heart disease, strokes, peripheral vascular disease, etc.); (2) Malignant tumors; (3) Diseases and disorders of the endocrine system (hyperinsulinism and insulin-independent diabetes, diffuse toxic goitre, obesity; (4) Diseases of respiration system (bronchial asthma, chronic bronchitis); (5) Diseases of digestive system (ulcerative disease of the stomach and duodenal ulcer); (6) Neuroses and psychoses; (7) Alcoholism and other drug addictions; (8) Allergic diseases; (9) Skin diseases (neurodermatitis, eczema); (10) Disorders of reproduction (acquired sterility, impotence), etc.

All these diseases and disorders have the following distinguishing features: (i) they all are associated with harmful factors, produced by the civilisation; (ii) the specific etiologic (individual) factors of their appearance and pathogenesis have not yet been theoretically comprehended and scientifically discovered and explained; at this point, only the non-specific 'risk factors' and the uniformed factors of pathogenesis are taken intensively into the consideration and scientific exploration. The latter is directly opposed to the broadly understanding classes of infectious (caused by the entire range of pathogens) and traumatic (of physical and chemical origin, of acute and chronic continuance) diseases, which precisely have the specific etiologic causes of their appearances and, hence, the specific mode of their operation.

6 As precisely concerns the impotence of modern biomedicine to comprehend the essence of the phenomenon of the individual's health and to realise the individual—etiological—approach at the scientific explanation of the nature of existing chronic non-infectious diseases—'diseases of civilisation' (we prefer to call them 'anthropogenetic ecological diseases' (Petlenko, Veber, Khroutski, 1998, p.15-17.).

7 A new system of axioms.

8 Which is, undoubtedly, absolutely necessary and essential for biomedical practice and ethics on the whole.

9 'Normal', in the term of T. Kuhn.

10 We not even mention those dozens of philosophers that has been engaged in the entire debate about health and disease during the last 30 years.

11 Not the one, merely substituting the schemes, delivered by Marxism, but precisely the new one, based on a novel ontological background.

12 Relying on the given example of pathogenic interrelation of ishemic heart disease with atherosclerosis.

13 Living in a democratic society!

14 Or found himself in surrounded by serious risk factors.

15 As well as social and humanitarian.

16 Following WHO's definition of health of the year 1946.

17 As concerns the reflection on the problems of comprehension of the individual's health and the etiogenesis of the diseases of civilisation.

18 We abbreviate the evolutionary process of the life on the Earth as 'Process'.

19 Complete substantiation of the cosmological bases is exhibited in the article, which was accepted for the publication by World Futures.

20 Precisely, of chronic non-infectious diseases, the object of our consideration.

21 Concerning the understanding of the individual's health and the etiogenesis of chronic non-infectious diseases—diseases of civilisation.

22 A leading contemporary explorer of Russian cosmism.

23 Another leading expert in the field of Russian cosmism.

24 For, 'the higher (above) organised level' is actually absent in the current existence of the person.

25 Precisely in accordance with the successive realisation of Maslow's hierarchy of needs.

26 Originally, the cosmist definition of individual's health was given in Jozef Glasa's *Medical Ethics and Bioethics* (Bratislava), Vol. 7, No. 1-2, Spring-Summer 2000.

27 Hence, being determined by the Past, they have the causal determination; but, at the same time, they also include the teleological reasons (of the Present) of man's current being and behaviour.

28 More accurately, within the context of ACW, that is 'the right' to be selected by man's functionally appropriate emergent future—by the successive higher integrated level of his well-being ontogenesis.

29 Thus, a boy needs to become the schoolboy, schoolboy—a student, further—an employer, mature professional, manager, etc.; otherwise, eventually,

there would not be any social, mental and psychosomatic (physical) well-being (health) of the man.

30 University for a schoolboy; vocational body for a graduate student, etc.

31 Of man's constant ascent in social and cultural relations.

32 More accurately, as 'process of processes'.

33 And, equally, of the patient as a person.

34 To contribute to the well-being of the successively higher level of man's ontogenesis.

35 So that the latter could be noticed and selected from the successively higher level of the man's future integrated well-being.

36 From the man's past and present adaptational and behavioural successes.

37 And that the extent of this integration forms the principal consideration of man's well-being (health).

38 On every given macro-level of the man's ontogenesis.

39 Functionally as a unit of Process, possessing Mind, Reason and Creating Hands.

40 At present, we evidently have—to the whole of Mankind.

41 If to refer to the philosophy and science of modern biomedicine.

42 It is essential, that the ultimate cosmist contribution may acquire very various forms: from gardening, or active religious belief, or bringing up children, up to participating in the international (as well as regional) ecological actions, or the elaboration of a novel philosophical or scientific project, or artistic efforts, or founding a new organisation, etc. Of course, the realisation of the reproductive function of a woman—pregnancy, childbirth and children upbringing—is naturally a cosmist function.

43 As well as for human and social sciences.

44 The former is obviously the sphere of public health and health practitioners, while the latter is the domain of the physicians' activity—of medical treatment itself.

45 That is, following WHO's definition, 'mental' (psychological) well-being of man.

46 WHO's 'social' well-being.

47 Including, naturally, his integrated biological traits – biotypological organisation.

48 Functional personal cosmist – meeting the specific need of Process.

49 WHO's 'physical' well-being.

50 A leading expert in the field of the philosophy of health.

51 Which, primarily, is revealed and perceived subjectively by the man himself.

52 In Kuhn's term.

53 Having already taken place.

54 In spite of the tremendous scientific and technological achievements, having been already reached in this course.

55 Similarly, as Hegel accounts the world of Prussian monarchy to be the final stage of the evolution of his Absolute.

56 The physiological apparatus of satisfaction is reasonably should be specifically embedded in man's biological organisation, so that to lead man optimally towards the execution of his cosmic assignment (function), aimed at the preservation and continuation into the future of one common Process.

57 For, only rational truths, ultimately verifiable by experiments, can be universal.

58 As an example of a 'disease of civilisation'.

59 On the treatment of arterial hypertension.

60 Inquiring also into the pathogenic significance of the specific socio-cultural factors of the patient's being.

61 And socio-cultural reasons.

62 Which is very much a subjective function!

63 Deeply satisfactory for the man.

64 And, equally, as a sociologist.

65 The first and the second levels (of physician and psychologist) are the types of subject-object interrelation between doctor and patient.

66 To provide the man with rational instructions.

67 Aimed at the ultimate execution of his cosmic (functional) personal assignment.

68 'Wholeness of future mankind': this is the central idea of the (Pan-Unity) philosophy of Russian cosmism (universalism). Vladimir Solovyov, its brilliant representative, stated as long ago as 1888 that:

> Since we recognise the essential and real unity of humanity, and we are to recognise this, for it is a religious truth, which is justified by rational philosophy and corroborated by exact science—since we recognise this substantial unity, we are to consider humanity in its whole as a great collective substance or collective organism, living parts of which are represented by different nations. From this point of view it is obvious that no one people cannot live in itself, through itself and for itself, but the life of every people presents only the determined participation in the common life of humanity. Organismic function, which is assigned to one or other nation in this universal life—that is the true national idea, primordially established in the design of God...' (Solovyov, V.S. (1992), *Russkaya ideya* (*Russian Idea*). In *Russkaya ideya (Russian idea)*, edited by M.A. Maslin. Moscow, Respublika Press, p.187).

Naturally, Solovyov implied, herein, the 'functional' (not of 'morphological' essence) integration of any subject. Substantially, Russian cosmism (especially, in its so-called 'religious–philosophical' trend) has absolutely nothing in common with (but directly counteracts) the totalitarianism of the Soviet times. In the majority, philosophers-cosmists were physically deleted ('gulags', etc.) during the years of the communist dictatorship.

AN ACCOUNT OF EXPERTISE: GOLDMAN, POLANYI, AND BEYOND

Jason Borenstein

1 Goldman's definitions of 'expert' and 'expertise'

The world is full of people we think of as experts. We believe that we encounter experts all the time in fields ranging from medicine to chemistry to economics to psychology. These people purportedly have some type of specialised knowledge and/or ability that justifies their title or classification. At first glance, what it means for a person to be an expert seems to be straightforward and uncontroversial. Yet when we try to express what an expert is, we sometimes tumble into philosophical pitfalls. It has proven difficult to put forth a rigorous definition of an expert or articulate what it means to have expertise.

As a jumping off point for my discussion of expertise, I examine the views of philosopher Alvin Goldman. In his most recent book, *Knowledge in a Social World*, Goldman briefly gives an account of expertise and tries to offer a definition of an expert or an authority, terms he uses interchangeably. His definition is as follows:[1]

> Person *A* is an authority in subject *S* if and only if *A* knows more propositions in *S*, or has a higher degree of knowledge of propositions in *S*, than almost anybody else.

As you can see, Goldman believes that expertise is a comparative matter, defining an 'expert' as someone who is more knowledgeable about a subject area than almost anyone.[2] He deliberately leaves open the possibility than more than one person, but not most people, can be experts in a given area. Goldman does capture the notion that an expert probably possesses knowledge that most other people do not have. But, beyond that, troubles begin for Goldman because his definition is fraught with philosophical problems.

Goldman's definition is unsettling because he defines an expert with reference to the relation of a person to other people. One could argue, however, that being an expert is not a relative matter. Rather, it entails having a high level of knowledge and skill in a subject area regardless of what a person's standing is in relation to other people. Additionally, Goldman's claim that an expert knows more than 'almost anybody else' is unclear. Who is factored into this equation? Do we consider people in our local community, in our country, in the world overall, or those who already have some acquaintance with the subject in question?

The comparative element of Goldman's definition is especially tenuous with regard to new areas of inquiry where little or nothing is known. For example, should we classify someone who studies whether magnets have healing properties as an expert merely because he/she knows more about that subject than most others? The subject area is new and uncharted, and it is unresolved whether any genuine expertise exists. Consequently, it is unclear whether it is appropriate to classify anyone as being an expert on magnets and healing. Determining whether someone should be classified as an expert is an issue that frequently arises in the courts because 'expert' witnesses try to offer new theories or techniques into evidence, and it is unknown whether there is genuine expertise involved.[3] These witnesses may indeed 'know more' than almost anyone about a particular subject area, but that alone should not qualify them as being experts.

I argue that Goldman's definition is flawed precisely because is both too weak and too strong at the same time. It is too weak in that it allows us to call people experts who do not warrant that title. Merely possessing more knowledge about a subject area than most others may not make a person an expert. Someone could know a broad range of disparate facts about a subject without being an expert on that subject. For example, I may know more about human health than most people because of my education in the field of biology, but that fact alone should not qualify me as being an expert. Experts in fields such as endocrinology or oncology would possess skills and have a vast base of knowledge about medical matters (matters that I am mostly unversed in) that would enable them to function well in their fields. Goldman's definition is too strong in that it does not seem to include highly skilled individuals who can perform specialised tasks but are unable to articulate what they know.

2 Types of knowledge

Unlike Goldman, I do not think it is accurate to say that what makes a person an expert is merely having extensive propositional knowledge. Knowledge of propositions does not exhaust all there is to know about a subject or what one must know to become an expert. To borrow a phrase from Gilbert Ryle, *knowing that* such and such is the case is not all that experts know. Presumably, people who *know how* to identify the cause of a tyre's failure, analyse handwriting, and make a medical diagnosis know something beyond knowledge of propositions. It would seem that skill or 'knowing how' to do something is an integral component of what most, if not all, people know or acquire from their experience, training, or education when they become experts. Goldman does briefly gloss over 'skill' in his discussion of expertise. But there is no mention of skill in the definition he offers, which undervalues its importance.[4]

According to Michael Polanyi, we cannot articulate everything that there is to be learned about an art.[5]

Polanyi believes that 'tacit knowledge', a type of knowledge that is displayed in such activities as swimming, playing tennis, and riding a bicycle, is passed from a teacher to a student through apprenticeship.[6] As Polanyi states, 'since an art cannot be precisely defined, it can be transmitted only by examples of the practice which embodies it.'[7] The student learns an art by submitting to the authority of a teacher for a time. When the student begins to master an art, he/she acquires both specifiable and unspecifiable elements.[8] During the training process, the student not only gains knowledge about the field studied but also hones relevant skills. The student learns how to perform his/her tasks at a high skill level, which is an integral component of being an expert in a field. The specialised skill of experts can be seen in countless activities ranging from hair styling, painting, music composition and performance, laboratory research, carpentry, juggling, horseback riding, piloting, military strategy, clothing design, computer programming/repairing, and playing sports.

Goldman suggests that experts have 'a higher degree of knowledge' than most others do. Yet having propositional knowledge seems to be an all-or-nothing affair. Either you know that *p* or you don't. So, how do we make sense of Goldman's claim? Maybe we can shed some light on it by looking at the type of 'knowledge' that Goldman is mainly concerned with, one he defines as 'true belief'.[9] According to Goldman, a person can have a higher degree of knowledge than somebody else, if the former believes something true and has a higher degree of belief than the latter.[10] In other words, given that *p* is true, person *A* has a higher of knowledge than person *B*, if he/she has a higher degree of belief in *p*.

Even if we accept Goldman's weak definition of knowledge, his claim here is misguided. It should not follow from having a higher degree of confidence in your beliefs than other people that you have a higher degree of knowledge. A person could have a 'high degree of belief' by fanatically holding onto his/her beliefs and avoiding counter-evidence. But it seems absurd to say that this person has a higher degree of knowledge than other people merely because he/she believes something with more confidence than they do.

Since the time of Plato, philosophers have found 'true belief' to be too weak as an account of knowledge. Plato rightly points out that 'true belief' does not suffice, because a person could coincidentally believe something true and it would be unreasonable to suggest that he/she has knowledge. Not all true beliefs amount to knowledge. For example, a juror could believe that a defendant is guilty of a crime because he/she is wearing unsightly clothing. For the purposes of the example, I will stipulate that what juror believes is something true (the defendant is guilty). But it seems wrong to say that the juror *knows* that the defendant is guilty. An account of knowledge that does not include some notion of justification is not an adequate account. So, is Goldman trying to return epistemology back to its ancient roots before Plato? Or, is he adding something new to the mix? Goldman's view of 'knowledge' as 'true belief' might be tied to his reliabilist epistemology, the view roughly that knowledge is true belief caused by a sufficiently reliable process. But if Goldman intends his older reliabilism and his new view concerning 'knowledge' to be related, then it no longer seems that his account is merely 'true belief'.

3 Characteristics of experts and expertise

Goldman does not seem to provide a complete account of what an expert is; so let us examine in more detail what characteristics an expert might be expected to have. To begin, I want to avoid the categorical assumption that one definition or classification can suffice to incorporate all experts, a mistake that I think Goldman makes. Goldman lumps every type of expert into a single, homologous group. There may be different types of expertise out there, resisting a single classification. Some types of expertise, for instance, might not require learning a vast base of theoretical knowledge. Seemingly, expert wine-tasters, tennis pros, and hair-stylists can perform proficiently without being versed in theory, which seems to disqualify theoretical knowledge as being a necessary condition for being an expert. Knowing a lot of theory does not seem to be a sufficient condition for being an expert either, because a person could accumulate lots of information about a field without achieving a level of proficiency or learning relevant skills. A scholar, for example, could know a great deal about music theory without having the knowledge or skill to be an expert composer.

A profile of an expert might include the following characteristics: the ability to simplify complexities, the ability to recognise when to make exceptions, how to select problems to solve, and adaptability. These attributes likely emerge during the course of a person's education or training when needed experience is gained. One indication that a person may be on the path to becoming an expert is when he/she gains insight into what must be learned to master a subject area and what must be taught to others so they can become experts themselves.[11] However, experts may not be able to articulate all that they went through to become an expert because they may forget what it was like to be a novice.[12]

Part of what someone likely gains when he/she becomes an expert fluency in a specialised vocabulary. As fields begin to develop and mature, they tend to create and modify terms to express ideas and concepts that have not been articulated in such manner before. In *Structure of Scientific Revolutions*, Thomas Kuhn

recognised this phenomenon, noting that the development of scientific disciplines:

> ordinarily calls for the construction of elaborate equipment, the development of an esoteric vocabulary and skills, and a refinement of concepts that increasingly lessens their resemblance to their usual common-sense prototypes.[13]

Kuhn explicitly discusses the sciences, but his observation seems applicable to other disciplines. Generally speaking, a specialised vocabulary is something that lay persons are not expected to comprehend fully because they are not members of the relevant field. Of course, fields may vary greatly with respect to how much terminology can and needs to be learned.

A specialised vocabulary often accompanies an expert field, but the use of a specialised vocabulary probably is not a necessary condition for being an expert. If an expert's field does have its own specialised vocabulary, then an expert should be conversant in it, using technical terms and concepts in their appropriate context. For example, an expert in paediatric medicine might use terms such as 'full sepsis work-up', 'premie grower', 'new-born screen', 'anticipatory guidance', 'developmental delay', 'formula intolerance', and 'failure to thrive'.[14] Further, an expert and a lay person might describe similar events differently because the terminology used by an expert and a lay person does not always match. For example, 'spontaneous abortion' is the technical term for what many lay persons call a 'miscarriage'. Another example is 'psychosis' and 'insanity', which are often conflated. But the former is a medical diagnosis used by health professionals, while the latter, often used by lay persons to describe a person's mental condition, is not.

We cannot identify experts simply in virtue of their fluency in a specialised vocabulary, because there are groups whose members have their own elaborate and technical vocabulary, but who probably should not be considered experts. There can be groups forming communities even though the claims offered by these groups largely rest on false presumptions. For example, phrenology is a field that reached prominence in the early nineteenth century, with its own specialised vocabulary.[15] One of the main theses of phrenology is that the brain is divided into distinct faculties that are localised in specific regions, a claim about structure of the brain that was distinctly ahead of its time. Another of its main theses, the one for which phrenology is probably best known, is that a person's character traits can be discovered by examining the contour of his/her skull. Although it was considered to be a respectable field for a time, phrenology has subsequently been shown to be wrong. There has been no link established between a person's character traits and the skull's external features. Thus, the use of a specialised

inquirer will also recognise that claims are not always to be abandoned whenever they are challenged. Also, being a responsible inquirer is vital, meaning that one must carefully attend to details so that hasty conclusions are not drawn and that important evidence is not ignored.

Experts are likely to display a greater proficiency for solving problems in their subject area faster and more accurately than nonexperts.[19] Experts should be able to realise the difficulty level of problems and gain insight into how to approach problems efficiently and effectively. Experts should be able to acknowledge the limits of their knowledge and make reasoned inferences from incomplete data.[20] They are more likely than lay persons to see evidential gaps in data, constructing ways to gather more information that could either confirm or disconfirm a hypothesis.

Having expertise may also include having the ability to make generalisations from specialised experience or being knowledgeable about a systematic body of theory.[21] For example, a philosopher, from his/her specialised training, should be proficient at applying principles of logic and recognising logical fallacies. When there is theoretical background knowledge pertaining to an expert's field, he/she should be adept at applying it. If necessary, an expert should be able to draw upon numerous theoretical beliefs in the completion of his/her work.

Defining what it means to have expertise is not a simple matter. A single description of expertise probably will not suffice. Maybe the best we can hope for is to list characteristics that experts might be expected to possess, an undertaking that I tried to further in this paper. These characteristics include being able to use a specialised vocabulary competently, upholding good practices of inquiry, and solving relevant problems faster than lay persons.

School of Public Policy at the Georgia Institute of Technology

Notes:

1 Goldman, *Knowledge in a Social World* (Oxford: Clarendon Press, 1999), page 268.

2 *See id.* at 268.

3 For examples of cases where novel evidence was offered *see Coppolino v. State,* 223 So.2d 68 (Fla. Dist. Ct. App. 1968), *State v. Aubert,* 421 A.2d 124 (N.H. Sup. Ct. 1980), *Commonwealth v. Browdie,* 654 A.2d 1159 (Pa. Super. Ct. 1995), *Commonwealth v. Graves,* 456 A.2d 561 (Pa. Super. Ct. 1983), and *Farley v. Commonwealth,* 458 S.E.2d 310 (Va. Ct. App. 1995).

4 *See* Goldman, *Knowledge in a Social World,* page 268 (see note 1).

5 *See* Michael Polanyi, *Personal Knowledge: Towards a Post-Critical Philosophy* (Chicago: The University of Chicago Press, 1958), page 53.

6 *See* Gilbert Ryle, *Aspects of Mind*, edited by Rene Meyer (Massachusetts: Blackwell, 1993), page 26 (discussing a similar notion called 'knowing-how').

7 Michael Polanyi, *Science, Faith, and Method* (Chicago: The University of Chicago Press, 1964), page 15.

8 *See* Michael Polanyi, *Personal Knowledge,* pages 49-65 (see note 5).

9 *See* Michael Polanyi, *Personal Knowledge,* pages 49-65 (see note 5).

10 *See id.* at 116-18 & 265

11 *See* Paul E. Johnson, 'What Kind of Expert Should a System Be?' *The Journal of Medicine and Philosophy* 8 (1983), page 78.

12 *See id.* at 92.

13 Thomas S. Kuhn, *The Structure of Scientific Revolutions* (3rd Edition) (Chicago: The University of Chicago Press, 1962), page 64.

14 I would like to thank Dr. Jeffrey Brosco, University of Miami-Department of Pediatrics, for introducing me to this paediatric terminology.

15 *See* Thomas Hardy Leahey and Grace Evans Leahey, *Psychology's Occult Doubles: Psychology and the Problem of Pseudoscience,* pp. 45-89 (1983) (discussing the history and development of phrenology).

16 In fact, there have been complaints of graphologists masquerading as forensic document examiners in the courtroom because document examination is usually seen as being a more credible field than graphology.

17 *See* Norman, Levitt, *Prometheus Bedeviled: Science and the Contradictions of Contemporary Culture* (New Jersey: Rutgers University Press, 1999), page 8.

18 For a discussion of the differences between genuine inquiry and 'sham reasoning' *see* Susan Haack, 'Science, Scientism, and Anti-Science in the Age of Preposterism,' *Skeptical Inquirer,* November/ December 1997.

19 *See* Jill Larkin, et al., 'Expert and Novice Performance in Solving Physics Problems,' *Science* 208 (1980), page 1335.

20 *See* George Hankins, 'The Paradox of Expertise,' *Engineering Education* 77 (1987), page 303.

21 *See* C. A. J. Coady, *Testimony: A Philosophical Study* (Oxford: Clarendon Press, 1992), page 278.

NOMINALISM & ANTI-REPRESENTATIONALISM IN HACKING'S *THE SOCIAL CONSTRUCTION OF WHAT?*

Giorgio Baruchello

1 Hacking's The Social Construction of What?

Ian Hacking's latest book, *The Social Construction of What?*, is aimed at providing reflections on the 'science wars' between 'constructionists' and 'inevitabilists.' The former term refers to those who believe that the entities with which natural and human sciences deal are—*mainly / mostly / relevantly / thoroughly / etc.*—'socially[1] constructed,' i.e. they 'need not have existed, or need to be at all as [they are].'[2] The latter term refers to those who claim that such entities are actually as they are described by science or, in other terms, that scientific knowledge is capable of representing the 'inherent structure' of the world. As a consequence, any genuine science would be bound to discover 'inevitably' the same 'universal truths' that the present has, insofar as it would be committed to outline the very same 'inherent structure.'[3]

Each chapter of the book contains an essay investigating a distinct area, or a specific set of cases, inside which the 'wars' at stake have taken place. Fascinatingly, Hacking's scrutiny wanders among as diverse entities as 'gender,' 'numbers,' 'quarks,' 'schizophrenia,' 'child abuse,' 'IQ,' 'dolomite,' and 'deification.' With such a variety of instances on display, Hacking's work constitutes an unusual path to approach the debated issue of 'scientific realism' and, more relevantly to my aims, the equally disputed issue of 'anti-representationalism.'

With 'anti-representationalism' I follow Richard Rorty's notion of an account

> that does not view knowledge as a matter of getting reality right, but rather as a matter of acquiring habits of action for coping with reality… [In] the attempt to eschew discussion of realism by denying that the notion of 'representation,' or that of 'fact of the matter,' has any useful role in philosophy . . . Anti-representationalists need to insist that 'determinacy' is not what is in question—that neither does thought determine reality nor, in the sense intended by the realist, does reality determine thought. Both of them are pseudo-explanations.[4]

The scope of Hacking's critical analysis is wide, indeed much wider than most of the philosophical studies on the issue of 'scientific realism,' which are used to orbit around physics, mathematics, and linguistics. Hacking stretches the borders of the discussion to geology, psychology, psychiatry, endocrinology, and several other fields of research. And parallel to the width of his interests is the spirit with which he approaches them. Hacking has no *a priori* preclusion to any contribution or direction, or at least so he states by referring to his own work as 'ecumenical,' for he is trying to find grounds favourable to both 'constructionism' and 'inevitabilism' (also called 'inherent-structurism').[5]

Hacking does not want to chastise and exalt anybody, rather he wants to understand. He wants to see through the various fields, the causes of the 'science wars,' and the reasons for and against the two antagonistic poles. He wants to investigate the margins of their relevance, highlight the insights they can furnish, and detect the key-issues of their opposition. [6]

In defence of 'constructionsim,' Hacking supports the idea that we do choose and create categories, both in the areas of natural and human science. Indeed we make concepts, terms, jargons, etc. and, through this creative work of 'kind-making,' we shape also our world, the territory of our examinations, the hunting fields for our cognitive enterprises. Importantly, through the same process, we shape also the universe of present and, up to a significant extent, of future possible study, insofar as the concepts that we are going to employ are to delimit the logical space of the questions that can be sensibly asked by the researcher.[7]

In defence of 'inevitabilism,' Hacking stresses the point that whatever we choose, the world remains—at least for the most part—as it is. 'Quarks' could have never been discovered, or a completely different science of the physical realm could have done without them. Yet, in either case, 'quarks' would have remained the same. One thing is the concept we mould, another is the object we intend to refer to. Of course, the dividing line between the two things is not so easy to draw, above all when we are dealing with 'interactive' kinds, namely kinds that are somehow affected by the selected categorisation. Certain concepts, in fact, cut down to the deeper ontology of the objects themselves, causing them to react to such thorough super- and trans-determination. For instance, many a family found itself at a loss when 'autistic children' were supposed to imply *by definition* 'refrigerator mothers.'[8]

2 Three 'sticking points'

The 'ecumenical' spirit of Hacking does not nullify the divergences existing between the two factions. In truth, he individuates three 'sticking points' where the unspecified metaphysical assumptions of the two parties rise to the surface, thus explaining their mutual theoretical misunderstandings and showing the

irreconcilable contrast that is present between them. He names these three 'hot spots' 'contingency,' 'nominalism,' and '(explanation of) stability.'[9]

Roughly summarised, the first term deals with the idea that valid scientific knowledge could be different from the one we have *hinc et nunc* and involve different concepts; the second one deals with the idea that the 'facts' described by scientific knowledge are dependent upon the ways we represent the world; the third deals with the idea that the uninterrupted belief in certain truths of scientific knowledge may depend on reasons that are external to mere scientific acceptability, as well as with the idea that mere scientific acceptability itself can be heavily influenced by factors of economic, cultural, religious, or sociological nature.[10]

For the sake of my paper I shall limit my attention to the second term, i.e. 'nominalism.' Yet, it must be said that the analysis of any of the three 'sticking points' involves indirect references to, and direct consequences on, the other two. I choose 'nominalism' for it is the one that more evidently alludes to the issue of 'anti-representationalism,' to which I believe Hacking's project can be sensibly re-directed and better understood. Additionally, it is also the 'sticking point' that more candidly manifests Hacking's own 'sticking points,' namely his own unspecified metaphysical assumptions and his own theoretical misunderstandings.

3 Nominalism

Hacking uses this word as to mean that 'the world does not come with a unique prepackaged structure.' Abandoning the pre-war (the Second World War) reverence for scientific facts as the objective backbone of any sensible discussion, Hacking sees the 'constructionist' party as committed to dismantling science's unspoken dogmas, as well as science's intellectual authority, in the name of a new-Romantic 'rage against reason.'[11]

In other terms, Hacking sees the 'constructionist' side as implying that scientific concepts do not convey anything more than their stipulated sense, whereas their opponents believe that such concepts are able to 'carve nature at the joints.' The 'constructionist' reply that the world has no such joints yet, or, even if it had joints, they would state that we cannot describe them once and for all, for we would be destined to do it with our limited, perspective-dependent representations. Moreover, if there were any such 'joints,' the 'nominalist-constructionist' would not be likely to deny that they might even lie behind such descriptions of ours, which yet remain far from 'translating' the 'enciphered code' of the universe, for all human descriptions, theories, and 'names' for things or phenomena have proved to be contingent, unstable, and quite often have already undergone radical changes—*nomen est omen*.[12]

Thus, Hacking concludes that he himself could be judged to belong to the 'constructionist' party in its being more radically 'nominalist' than any other anti-realist one could be, since the 'constructionist' reckons only worldly interactions and experiences, whether related to unobservable entities or observable ones. Besides, as he notices, although no-one among the 'constructionists' wants to use the term 'metaphysics,' nor explicit metaphysical terms, such as 'nominalism.' Besides, so Hacking suggests, nobody in the area actually thinks about metaphysics, and the result is just the shouting between deaf interlocutors that he labels as 'science wars.'[13]

4 Metaphysics

It is then clear that Hacking's use of the five-century-old label of 'nominalism' for this party—an attribution of age that actually rejuvenates it[14]—is targeted at bringing forth the unspecified metaphysical stances taken by the two contenders. The central, constant issue of their debates regards the problem of the ultimate relation between human concepts and the correspondent entities. The 'constructionists' claim that whatever we are referring to, the tools we use to refer are socially and historically forged ones, so that they cannot and do not assure any incontrovertible outcome. The 'inevitabilists' reply that, even if the process through which we get to refer may be socially and historically determined, the outcomes can be, at least sometimes, incontrovertible, necessary, and true. Their contest is clear, then; yet, whether an answer can be found to these 'science wars,' it is not clear at all. Significantly, Hacking's book shifts constantly between the two sides, displaying pros and cons of each of them, and letting the reader grow a Pantagruelian appetite for a final solution that is never to arrive.[15]

For instance, Hacking follows the 'inevitabilist' in that we can distinguish between 'indifferent' and 'interactive' kinds, namely that there are 'natural' or 'artificial' kinds which do not change when the related concepts are being revisited. Still, he accepts also the 'constructionist' in that we do mould our cognitive 'pigeonholes' in social and historical frames of research, which delimit the horizon of what can be known and hoped to be known.[16]

Similarly, Hacking accepts the insights coming from Nelson Goodman's side for 'irrealism' (i.e. suspension of the judgement over the realism vs. anti-realism debate) and 'world-making' (i.e. we determine the universe to be investigated by determining the concepts allowed to exist inside it). Still, he also looks at Putnam' and Kripke's causal theory of meaning as a valuable way to explain why we have certain beliefs and how concepts may come into existence. In other words, Hacking endorses both the former's highlight of the creative element that the concepts' genesis involve,

the power that they have of instantiating a new universe through their mere application, and the latter's stress on the causal connection that characterises reference, plus its capacity for delimiting sets of necessary and sufficient conditions that say when a concept is sensibly employed.[17]

5 Which metaphysics?

So far, so well. Hacking zigzags between the two camps, distributing pearls of wisdom to the contenders. No synthetic or resolving input is given, though, thus causing the reader to remain inside a mist of doubts. It must be said, however, that Hacking does make it clear that he intends to decline the temptation of responding to the metaphysical issues at stake, which itself constitutes indeed a metaphysical stance (i.e. Goodman's 'irrealism'). He wants to present the uses and misuses of 'elevator words' made by 'constructionists' and 'inevitabilists,' namely of words that convey philosophical loads of idealism, realism *et sim.*—words such as 'facts,' 'truth,' 'reality,' 'evidence,' 'objectivity,' which intend to bridge between 'ideas' (e.g. the concept of child abuse) and 'objects' (e.g. child abuse). [18]

Under this respect, i.e. the individuation of 'elevator words' behind the voices engaged in the 'science wars,' Hacking is very efficient. However, as already mentioned, one expects some sort of solution, a step forward of some sort, beyond or behind the muddles of the belligerents at stake. Yet, as anticipated, nothing comes up, apart from the certainty that, whichever this may mean, Hacking regards himself as a 'nominalist'.[19]

To put it lyrically, Hacking's journey between the Scylla and Charibdys of the 'science wars' ends up with a shipwreck, or, if we want to give him a sweeter death, he gets enchanted by the sirens. Why does this happen? If Hacking is so successful in seeing so well through the lines of the two parties, can he not recognise where their failures lie?

6 Less metaphysics?

Hacking does not—or does not want to—see the ultimate ground of the struggles between the two parties. This ground being, in my opinion, the unfortunate 'representationalist' presupposition endorsed by all the 'inevitabilists,' as well as by many of the 'constructionists,' probably. The epistemological model involved in their debates is such that it is constantly fought on the plausibility that our cognition does represent the world accurately or not, or whether what lies beyond our systems of reference is going to play some form of constraint on its by-products or not. In truth, such a presupposition might be operating beneath Hacking's own mindset, insofar as he does not invite the two sides to abandon the notions of 'representation' or 'description' of 'objects' through 'ideas,'[20] as he does not claim Goodman to be correct when inviting the scholar to the adoption of 'irrealism,'[21] and as he does compare his own 'nominalism' to Kant's 'transcendental idealism.'[22] Perhaps, behind Hacking's own lines do sing the dualistic mermaids of Plato, Descartes, and Ludwig Wittgenstein, half maidens and half creatures of the sea, who ask treacherous questions such as: 'Is it a whale what we mean with 'whale'? Was Melville's "whale" a real whale? Was it the same whale as ours? Do words portray objects? Do sentences represent states of affairs? Do conceptual schemes depict the world? Is language a mirror of reality?'[23]

Finding an answer to these questions is not easy. As it is not finding a definitive answer to my doubts. Hacking is ambivalent when confronting 'constructionists' and 'inevitabilists,' so is he when talking of 'ideas,' 'objects,' and 'elevator words.' He does distinguish the third group from the others, but its position about these 'elevators' is as unsurprisingly as unfortunately ambiguous. He does state, in fact, that they are used too much and to too much detriment of serious debate on science.[24] He does say that we should try to use them as rarely as possible.[25] He does not say whether their use is legitimate and, above all, whether his own 'nominalism' is just one of these 'elevator words.'[26]

In truth, Hacking does not seem fully aware of this side of his intellectual Odyssey, which is not irrelevant to the problems he is tackling with his book. In the end, his notion of 'nominalism' remains as troublesome as the other alternatives on the ground, namely 'constructionism' and 'inevitabilism,' and, which is even worse, it is far less dissected in its metaphysical implications as the other two are. Moreover, Hacking seems eventually prone to defend it as his own position.[27] Of course, it is quite clear that 'nominalism' is meant to reduce the room for metaphysical challenges when they are not required—i.e. the 'science wars'—but it is not at all clear whether and why such a position and not some other should be taken, and, above all, whether and how deeply metaphysical 'nominalism' is as such. If 'irrealism' is a metaphysical instance, in fact, 'nominalism' is likely to be so as well, yet Hacking does not seem interested in deepening this problem—how can it be a source of less metaphysics then?[28]

7 Anti-representationalism

The only way I can see Hacking's 'nominalism' reduce the room for metaphysical knots in the interpretation of science is by attributing to him a germinal, confused, convoluted form of 'anti-representationalism.'[29]

As already observed, his 'nominalism' recognises the role that we play in formulating the terms through which we cope with the world, plus he does not want

to fall back into the 'eccentric' assumptions of idealism.[30] Repeatedly Hacking stresses his belief in material entities as existing independently from our ideas about them—i.e. as being what they are, and as they are, independently of our *flatus vocium*, as any good Medieval 'nominalist' would have done—without denying the existence of God, though! Additionally, the gap between 'interactive' and 'indifferent' kinds is described as sharp and broad, at least in Hacking's intentions: 'Quarks do not learn that they are a certain kind of person and act accordingly,' they remain what they are, as nature made them. Yet, this is clearly a metaphysical stance, which, incidentally, is usually regarded as a realist one, not a 'nominalist' one—maybe Hacking's God is the realm of 'scientific objectivity'.[31]

It is my reading that Hacking wants to make it clear that he believes that we are in a world that we can know and, even more so, with which we interact. The complexity of the systems through which we attain knowledge and, very significantly, the number of factors that co-operate in determining the scope and goals of such knowledge, are yet far more intricate and reciprocally interconnected than the 'inevitabilist' party would like to admit. I render his thought in this light because it would be otherwise difficult to realise why Hacking's concessions to Goodman's 'irrealism' do not debunk his faith in 'objectivity,' and why they are there *in primis.* Equally troublesome would be making sense of why Hacking maintains that the categories of explanation formulated and employed in the sciences, *Gesiteswissenschaften* in particular, are eminently practical, so that a 'dynamic' approach can be often more appropriate than a 'semantic' one.[32]

After all, it is not opaque that Hacking is torn between the two sides involved in the 'science wars.' Hacking does recognise the good reasons of both sides, but does not really know how to solve their conflict.[33] The suggestions that he gives yet, namely the *reductio* of their metaphysical claims, is coherent if and only if it is seen as the adoption of an 'anti-representationalist' view, which, on the one hand, discharges the gap between language and facts and, on the other hand, allows for a primitive, ordinary rendering of terms such as 'true,' 'real,' 'actual,' and so on. Without this step into 'anti-representationalism,' in fact, I cannot see how his advice may be taken as non- or anti-metaphysical and, above all, how his analysis of the 'science wars' may sound less ambiguous. I say 'less' because some ambiguity is going to be left on the ground unavoidably. Hacking's 'anti-representationalism' is not self-evident, but merely inferable from his remarks. In other words, either he is not aware of it, or he does not like the idea of being grouped with post-analytic authors such as Donald Davidson and Richard Rorty, namely the two main voices of 'anti-representationalism.'[34]

And it is not difficult to understand why he does not like it. Hacking's temperament is too different from theirs. His commitment to science is far higher than theirs, especially when it is a matter of paying tribute to the immense success of, say, molecular biology and genetics.[35] Even more so, as a matter of partisanship, Hacking does not want to be post-analytic at all, he wants to be seen as a member of the academically dominant group, i.e. an affiliate of 'we analytic philosophers.'[36]

It is interesting to notice, in fact, that Hacking sounds sometimes as though he were trying not to be mystified as one of the 'gurus' of 'anti-representationalism.' For instance, he stresses the fact that he wants to 'save' the notion of 'truth' from becoming an old-fashioned term that is hopelessly relative to the conceptual scheme inside which it is applied. This in spite of his own recovery and generous use of the notion of conceptual scheme itself![37] Indeed, Hacking knows that his 'contingency thesis may be confused with multiculturalism, but it has nothing to do with it.'[38] 'Truth' cannot be put 'in ironical shudder quotes.'[39]

However, just with respect to the notion of truth so 'defended,' Hacking's solution does not differ much from the post-analytic one, in the sense that truth gets rescued merely as a primitive notion, which turns troublesome only 'when the expression 'the truth' becomes elevated.' Notions that may sound even remotely like 'epistemology and metaphysics' are actually to be regarded with suspicion, in spite of Hacking's own love for such disciplines.[40] Then it follows:

> Maxim: if, in a philosophical discussion, you become tempted to engage in semantic ascent in order to make some point you think is important, stop, and try doing the thinking at ground level.'[41]

Hacking suggests to deflate the problem of 'truth,' as well as those of 'facts,' 'being in touch with reality,' and so on. He suggests that we should leave the heavy luggage of philosophical discourses behind, and rely on a commonsensical vision of our linguistic tools, which, just as one's domestic tools, should deserve care and understanding, but no fetishist worship or 'dogmatism.'[42]

On the basis of this 'deflationist' approach, Hacking's position can be justifiably read as not very different from Rorty's one. Avoiding 'elevation' in favour of a plainer approach to knowledge and praxis is pretty much what 'anti-representationalism' instructs us to do. Sharing an analogous 'levelling' spirit, in fact,[43] Rorty wants us to discharge 'the idea of the intellectual as someone who is in touch with the nature of things, not by way of the opinion of his community,' or, in Hacking's terms, by way of the 'kinds' that we make.[44] Rorty wants to get rid of just those 'elevator words' of which Hacking disapproves. A close

'horizontal' approach animates his work: let us stay on the ground level, let us avoid the temptation of leaping any higher, let us avoid the dream of philosophical *Tiefsinnigkeit*—would Hacking state something different?[45] I do not think so. An analogous 'nominalist' spirit pervades their enterprise, at least as far as one can really make sense of Hacking's 'nominalism.' Moreover, Rorty wants us to reject the ideal goal of a philosophy that 'must lead to the truth, to correspondence to reality, to the intrinsic nature of things,' and that sees 'solidarity' as a far more important task than 'objectivity.'[46] And just this stress on solidarity, social justice, liberation, is an equally crucial concern of Hacking's book, which indeed inspired the writing of *The Social Construction of What?* itself.[47]

Similar echoes come from Davidson's side:

> Beliefs are true or false, but they represent nothing. It is good to be rid of representations, and with them the correspondence theory of truth, for it is thinking that there are representations that engenders thoughts of relativism.[48]

No correspondence theory of truth is needed, which involves always two 'vertical' levels i.e. the one of facts and the one of our linguistic portraits of them, and which allows the sceptic to ask: 'Is the portrait really accurate?' Or the relativist to come by and say: 'The portraits differ from culture to culture, and there is no way to state that one is more accurate than any other.' A coherence theory is all that we need, insofar as truth is primitive and needs no explanation, and insofar as

> the agent has only to reflect on what a belief is to appreciate that most of his basic beliefs are true, and among his beliefs, those most securely held and that cohere with the main body of his beliefs are the most apt to be true.[49]

8 Conclusion

Shall we conclude that Hacking is actually an 'anti-representationalist' thinker?

I do not know. He does not say it, and I would feel rather awkward in attributing this 'honorary title' (or, for some, 'dishonorary') to an author who does not claim so. Yet, I can state that his suggestions regarding the solution of the 'science wars' are consistent with the spirit of 'anti-representationalism.' The hints he gives, as seen, are not completely free from ambiguity, but the intent behind them is a form of 'deflation,' or 'metaphysical debunking,' that strongly resembles Rorty's and Davidson's.[50] Hacking's operational scheme is rather limited, though. Perhaps he is really in trouble with the idea of conceding too much room to the 'constructionist' party, insofar as it may give him discredit as an advocate of anti-science thinking. Perhaps he is not interested in deepening the question with the conceptual instruments provided by the 'anti-representationalist.' Still, such a stream, its authors, their voices, can help him to do it, whenever he could desire so.[51]

Department of Philosophy, University of Guelph
Guelph, Ontario, Canada

Bibliography

Hacking, Ian (1999), *The Social Construction of What?*, Cambridge: CUP.
(1998), *Mad Travellers. Reflections on the Reality of Transient Mental Illness*, Charlottesville: Univ. Press of Virginia.
(1995), *Rewriting the Soul. Multiple Personality & the Sciences of Memory*, Princeton: PUP.
Oliver, Kelly (ed.), *The Portable Kristeva*, New York: Columbia Univ. Press.
Marsonet, Michele (1996), 'Richard Rorty's Ironic Liberalism: A Critical Analysis,' *Journal of Philosophical Research*, XXI, 391-403.
(1996), *The Primacy of Practical Reason. An Essay on Nicholas Rescher's Philosophy*, Lanham: UPA.
(1995), *Science, Reality, and Language*, Albany: SUNY Press.
Rorty, Richard (1999), 'Phony Science Wars,' *The Atlantic Monthly*, November, 120-2.
(1991), *Objectivity, Relativism, and Truth. Philosophical Papers I*, Cambridge: CUP.

Notes:

1 The entire book rests on a bad and shallow interpretation of 'construction' as 'social construction', for construction is seen as necessarily and unavoidably social. This picture is not convincing. Construction is not solely social. A third part has to be included: the individual subject. Its absence is quite astonishing, above all if one reflects on the intriguing works written by Hacking on the singular world-constructing faculties of psychiatric cases (see bibliography). In this book, instead. Hacking seems to overestimate the role of language and, in a Wittgensteinean manner, he reduces all possible 'filters' between knowledge and reality to the linguistic games of an *ethnos*. Yet, there are also individuals, having their own twist on both spheres, i.e. that of language and that of reality. The two-parties picture he employs needs an additional *tertium*. Kant, Husserl, and Popper may be recalled to remind the reader about the complexity and the importance of the sphere that Hacking leaves out. A further solution, expressed in terms probably more familiar to Hacking, is Donald Davidson's 'triangulation,' which describes the determination of knowledge as intentional interactions between 'subjectivity,' 'inter-subjectivity,' and 'objectivity'.
2 Hacking (2000), pp. 6, 24-5.

3 Hacking (2000), pp. 6, 22-3, 83-4.
4 Rorty (1991), pp. 1-2 & 5.
5 Hacking (2000), pp. 32-4.
6 Hacking (2000), pp. 3-5.
7 Hacking (2000), pp. 170-2.
8 Hacking (2000), pp. 104-6.
9 Hacking (2000), pp. 66-8, 96-9.
10 Hacking (2000), pp. 68-92.
11 Hacking (2000), pp. 60-3.
12 Hacking (2000), pp. 82-4.
13 Hacking (2000), pp. 83-4, 233-4, 23n.
14 Hacking (2000), p. 82.
15 Additionally, as a side-remark on Hacking's use of 'nominalism,' which he wants to attach to the 'contingentist's' back, I must state that this term results rather inappropriate, at least from a historical point of view. This word, in fact, reminds me of Roscelin and William of Ockham, and of the claim that universals (i.e. theoretical entities) are mere *flatus vocis*. Now, this is quite different from affirming that the connection and resemblance between words or concepts and material entities are a matter of representation, for which the non-existence of natural 'joints' would be almost irrelevant—I say almost because, were there no such joints, words or concepts would be unlikely to exist.
16 Hacking (2000), pp. 162-3.
17 Hacking (2000), pp. 41-2, 120-3.
18 Hacking (2000), pp. 21-3.
19 Hacking (2000), p. 233, 23n.
20 Hacking (2000), pp. 21-2.
21 Hacking (2000), p. 61.
22 Hacking (2000), p. 232, 14n.
23 These mermaids inhabit the seas between the continents of the world *as it is* and of human *Vorstellungen*. Another way to put it is 'what has sometimes been called "Hume's fork"—the distinction between "relations of ideas" and "matters of fact." This distinction survives in contemporary philosophy as the distinction between "questions of language" and "questions of fact,"' [Rorty (1991), p. 40] which is responsible for contemporary debates on scepticism.
24 Hacking (2000), p. 22.
25 Hacking (2000), p. 80.
26 Hacking (2000), pp. 233-4, 23n.
27 'Nominalism' as on pp. 33 & 60, and as on pp. 206 & 233-4, 23n.
28 'Nominalism' is firstly attributed it to the 'constructionists' alone, only in the end-notes it becomes clear that Hacking wants to espouse this position. See previous note. In addition, consider Hacking's 'slip' in Hacking (2000), p. 223, where he seems to admit that he is playing the trade of metaphysics.
29 See note 4.
30 Hacking (2000), p. 24.
31 Of course, for the sake of this remark, I am referring to realism about physical things and not about abstract things.
32 Hacking (2000), p. 31.
33 Hacking (2000), pp. 123-4.
34 Hacking (2000), p. 96.
35 See Bibliography.
36 Hacking (2000), p. 164.
37 Hacking (2000), p. 29.
38 Hacking (2000), pp. 170-3.
39 Hacking (2000), p. 232-3, 16n.
40 Hacking (2000), pp. 236-7, 2n.
41 Hacking (2000), p. 234, 23n.
42 Ibid.
43 Hacking (2000), p. 96.
44 Hacking (2000), p. 60.
45 Rorty (1991), p. 21.
46 Rorty (1991), pp. 61-2.
47 Rorty (1991), p. 22, 55-60.
48 Hacking (2000), p. 96.
49 Davidson (1989), pp. 165-6.
50 Davidson (1986), p. 319.
51 Beyond the obvious cases of Rorty and Davidson, I have in mind authors such as Michele Marsonet and Julia Kristeva. The former philosopher, an Italian 'neo-pragmatist,' via a mindful recovery of Dewey's epistemology, claims that we belong to the world as much as any object of scientific inquiry and that, even if the objects of this inquiry will be known always through the lenses that nature gave to us, this does not imply that we cannot have a veritable grasp of the real. Perhaps we cannot have a complete, non-perspectival grasp of it, but a veritable one indeed we can have. Ants, rhinos, or termites have as qualitatively incomplete a grasp as we have (and, probably, an even more quantitatively incomplete one. Yet, since they are the fruit of evolution as much as we are, they are likely to have as veritable a grasp of it as we have, insofar as knowledge is assumed a priori as a complex of adaptive practices, rather than an abstract realm of 'portraits' of the world in which we dwell. 'Truth' or, similarly, 'correspondence with the world,' are thus taken for granted and trivialised—we belong to the world, why should we be 'detached' from it? Radically, it is taken for granted that we are physical and biological creatures, whose intellectual faculties are not the key to accede to an other-worldly realm of transcendental objects, but are a complex tool-box that we have been given step by step throughout the natural evolution of our species, which includes both our bodily skills and our mental ones.

Continued on p. 162

THERE IS NO GOD

The implausibility of theism: a reply to Vander Elst

N.E .Wetherick

1 Introduction

Vander Elst's paper in this journal (Vol. 3, No. 2, pp. 63-70) demands a reply since, while anyone may legitimately believe anything he or she likes, he clearly wishes to persuade others to share his belief in the Judaeo-Christian God and is contemptuous of the intelligence and indeed the honesty of anyone who does not. G.E. Moore was probably correct in supposing that no one can rationally assert 'Proposition P is true but I do not believe it' but it is not obvious that no one can assert 'Proposition P is false but I do believe it' (perhaps because it would be comforting if P were true). One or two preliminary issues need to be cleared up first of all.

Some people, as Vander Elst says, accept belief in God but only as a first cause, the being that lit the fuse that set off the 'big bang'. Certainly it is true that no one has much idea what might have been the case fifteen billion years ago, before that event occurred. (The Pope has, I believe, explicitly assumed authority to pronounce on the subject.) But what do we gain by postulating a God (who is beyond our understanding, by definition) in order to explain something that we do not at present understand? We do understand many things that we did not understand ten, fifty or five hundred years ago. Why should not this process continue?

Even if we accept God as first cause of the existence of our universe, it does not follow that we are accountable to him. We may be unintended by-products of his creation, or he may have created us just for the pleasure of seeing what a hash we make of things, left to ourselves. He may even be positively evil; what good there is in the world may be entirely attributable to human agency. That explanation fits the fact of the existence of good and evil as well as the Christian account that attributes all the good to God and all the evil to human nature. These alternative possibilities were all actively canvassed in the early centuries of the Christian era but Christianity obtained political power and used it to suppress dissent by any means, as it has always done and would do still if it were not the case that, mercifully, power has slipped from its grasp in many parts of the world.

Anyone who accepts the existence of God from a desire for personal security must be regarded as either ignorant or stupid. Christian dogma makes it absolutely clear that after death comes judgment. No one can die in the assurance that he or she will spend the rest of eternity sitting on a cloud, strumming a harp, in perfect and absolute contentment. The fires of hell are always a possibility, indeed they are a certainty for anyone like myself who has had the opportunity to know the Truth (with a capital 'T') and rejected it. This would be more frightening than it is, if it were not so obviously in the interest of the Church to strike terror into the hearts of potential defectors, If there is no God, there is no heaven and no hell and no purpose in human life except what individual human beings choose to give it. Some of us prefer it that way. Jesus Christ must then be regarded as an unremarkable human being who would indeed have been remarkable if he had been the Son of God. But someone who does not exist does not have sons. In the 18th Century the poet, Alexander Pope, who took religion very seriously, was rightly contemptuous of a clergyman 'Who never mentioned Hell to ears polite'. Nowadays, hell is never mentioned at all, to ears polite or impolite, but religion can serve no useful purpose without it. Human beings can do good because they want to, with or without religious sanction, and rarely do it for any other reason.

Vander Elst and I agree on one thing, that the possible existence of God is the most important of all questions. If the Christian God exists he has made it abundantly clear what will be the fate of those who refuse to accept his existence—and for all eternity. If there were any plausible grounds for supposing that such a God did exist it would be crass stupidity to deny it: the possible consequences are altogether too grave to contemplate. The position of the agnostic is ridiculous: how can one retain an open mind on an issue of such gravity? The fact is, however, that there are now no plausible grounds for supposing any such thing. That is not to say that there were not once plausible grounds. Up to perhaps five hundred years ago there were many questions that could arise in the mind of an intelligent individual to which there was no conceivable answer except in religious terms. Moreover, the conditions of life for the majority were so unpleasant that promise of health and happiness in an after-life—which Christianity was careful to offer, in addition to (wrong) answers to the questions—was bound to be attractive. Today life is longer and more pleasant for the majority and many of the questions have been answered, rationally, by the exercise of the unaided human intellect. We may reasonably require better grounds for a belief in God and be inclined to consider the evidence against as well as the evidence in favour.

2 The Argument from Physical Science

It is agreed that there is much that we, as human beings, do not know. We do not know what (if

anything) was the case before the big bang but the really remarkable thing is that, since then, organisms have evolved capable of knowing—not that there are things that a given organism does not or did not know at a given time. It makes no sense to speak of 'organisms' that do not have knowledge; i.e., do not have the capacity to predict in some sense what will happen next, in order to approach, if possible, what is good for them and avoid, if possible, what is bad. If this is not possible in a particular case, that may be the end of the organism but if organisms have the capacity to learn from any of their successes or failures that they survive (which appears to be the case) there follows at once the possibility that organisms will evolve of any degree of sophistication, including the human. Science is simply the desire to predict what will happen next, in order to approach what is good for us and avoid what is bad if we can. Initially it was concerned only with increasing our survival chances; later with increasing our understanding, which was and is regarded as a good in itself. (Having a knowledge-acquiring capacity we enjoy putting it to use.) This activity has been astonishingly successful and, to account for its success, the metaphysician (not strictly the scientist, though some individuals try their hand at both) is inclined to postulate universal causation. There are alternative possibilities; an all-knowing, all-powerful God could presumably have decided to make our predictions come true in most circumstances while retaining the right to falsify them whenever it suited his purpose. It seems an odd way of going about things (causation would be so much simpler) but in theology such things are possible. Causation is, however, a more likely explanation and, indeed, can one really conceive a universe in which it was not the case that everything was governed by a pattern of universal natural laws? Surely that state of affairs is what we mean by chaos and no organisms could evolve in it because no predictions would be possible. So there would be no knowledge and no science for lack of organisms like ourselves to create it. Some physicists go so far as to say that the actual values of the physical constants in our universe are the only ones that could have ensured survival long enough for sentient organisms to evolve in it. Other values would generate universes that disintegrate into chaos in a relatively short time. Ours did not, any number of others may have done so. If any other universes survived long enough then sentient organisms may have evolved in them too and vanished thousands or millions of years ago. Their physical existence (like ours) was threatened by many possible physical calamities.

If our experience is typical, sentient life evolves extraordinarily quickly when the physical conditions are right. A few hundreds of millions of years from scratch, a few tens of thousands at the end of the process for human, knowledge-acquiring life. We know of many kinds of natural calamity that have occurred on Earth at intervals of hundreds of thousands of years and will certainly occur again. Even if we avoid obliteration by an itinerant black hole, there are to be considered possible collisions with large celestial bodies and really large volcanic eruptions, any of which might be sufficient to destroy human civilisation. The Yellowstone Rational Park (in the USA) sits on a volcano that will destroy most of North America when it erupts, which it will one day. A volcano in the Canary Islands will one day cause a landslip large enough to generate a tidal wave that will engulf the east coast of the USA and of South America and much else besides. Such calamities as these are known to have occurred in the past before human life evolved and will occur again. Human life on Earth has taken advantage of a temporary (and rather atypical) period of geo-physical quiescence and if similar life ever evolved anywhere else it is more likely than not to have disappeared by now. Signals from outer space (if we ever detect any) will show only what was the case, tens or thousands or millions of years ago, not what is the case now or will be the case tens or thousands or millions of years hence to receive our answering signals, if we send any. There is no way to predict when precisely one of these calamities will occur. The human race may have destroyed itself before any of them does. But the facts surely cast grave doubt on the likelihood that we are the creation of a God who is all-knowing, all-powerful and all-good. All-knowing and all- powerful he may be but surely, if he were all-good he would have found us a place in a more secure universe. Or was this beyond his power, or knowledge?

The bodily conformation of a human being does not look like the work of a creator with absolute power and knowledge. Cells must multiply to support life but was it necessary to leave them liable to uncontrolled reduplication which destroys life? Did viruses have to be created, which achieve nothing in their struggle for survival but trouble for more highly evolved organisms? There is a much more likely explanation—that we and the viruses are products of an evolutionary process that tried out all possible patterns and arrived at one only (the vertebrate) that was capable of development to the human (science-producing) level. The Earth's history shows that on at least five occasions, nearly all the species then existing were wiped out by a natural calamity. Are we to believe that this was God wiping the slate clean when things did not turn out as he had hoped in his efforts to create man in his own image? There is no evidence here of absolute knowledge or absolute power.

3 The Argument from Morality

What Vander Elst has to say about internal moral standards does not rise to a level at which refutation is

possible because he presents only assertions unsupported by evidence, not arguments. He asserts that moral standards are either subjective or objective and either true or false. Subjective equals false and objective equals true and God-given, therefore God exists. The fact that there are no objective moral standards is by now so obvious as not to require demonstration. Admittedly many varieties of religion assert that the standards which they recommend are objective (because God-given) but that is just the way with religions. The fact that these standards differ radically from each other within and between religions shows that they are subjective—and necessarily so since their function is to govern actions taken by individuals by their own subjective choice. Doing so may leave them liable to sanctions imposed by the society in which they live (if that society has adopted one religion or another) but that is a question of standards legally imposed, not moral standards. The latter sometimes demand opposition to the former and must be subjective. There is no eternal moral law 'written in our hearts'. To determine what is morally required of us is one of the prime functions of our minds, not our hearts. It may be argued that the unsophisticated part of society is not capable of the mental effort required and this may be true. While the institutions of society are held in sufficient awe the result may be apparent conformity to whatever moral standards are prescribed (the conformity is unlikely to be more than apparent) but this is no longer the case in most parts of the western (Christian) world. It may still be the case in the Mohammedan world—perhaps for no better reason than that the Mohammedan world is six hundred years younger. There are many parallels between the Mohammedan world today and the Christian world six hundred years ago (or less). Contemporary Christian fundamentalists know how much they can get away with.

4 The argument from free will

Vander Elst's comments on free will show no evidence of familiarity with any recent or reasonably sophisticated work on the subject. How, he asks, can we be free to think and choose and decide and act, if we are just complicated biological mechanisms? The answer is, very easily. The whole of behaviour, moral or other, consists of choices between alternatives. A free choice is one which is made either at random or after consideration of all the factors that appear to the chooser to be relevant, giving each factor whatever weight appears to him or her to be appropriate. It is always possible that the chooser might have chosen differently if he had known of other relevant factors that he did not know of but this does not affect his freedom—none of us ever has perfect knowledge in any situation. An external observer who had somehow gained access to all the factors that a given chooser considered relevant, and the weight that he or she attached to each, might be able to predict what that chooser would do—so long as neither observer nor chooser had made any logical errors in assessing the input. Even then, the observer would have to be working without the chooser's knowledge. If the chooser knew that his behaviour was being predicted he would take that into account as an additional relevant factor. If he did not object, his behaviour would be unaffected or might be influenced in the direction of choosing to do exactly what he thought the observer wanted. If he did object then his behaviour might be the opposite of what it would otherwise have been—just to spite the observer by falsifying the prediction. This is to be as free as any rational behaver can possibly be. If anyone holds that this is not freedom in the full sense, he is asserting that no rational behaver can be free. What then could be free? Perhaps only a God-given soul/mind that, being immaterial, can have any properties or capacities we like. (The extra freedom could only be freedom to act in what was not the most rational way in the opinion of the chooser—which, of course, he has anyway.) The argument begs the question whether we have any such soul/mind. Anyone who wishes, as Vander Elst does, to use free will as an additional argument that we do, must be prepared to say in what respects the individual will be freer than he was as a rational behaver, I can think of none.

The idea that determinism is incompatible with free will, though hallowed by time, is simply false on close inspection. Consider a camp fire, a pile of burning twigs and branches. No one would wish to deny that what happens in the fire is determined, wholly determined, by the relevant physical laws of combustion. No one would, however, wish to assert that the direction in which a particular flame will flicker next or the time at which a crackling sound will be heard, will be predictable in practice. Some camp fires go out ignominiously, some burn usefully for a time, occasionally one starts a forest fire which changes the face of a landscape. None of this is predictable in practice. A camp fire does not think it is making choices to behave in one way or another because it does not think. If it did it would think so, for the same reason that you and I think so, and it would be right. (Of course, possession of the capacity to think carries with it the possibility of logical error—a possibility that does not arise in the case of the camp fire.) We have free will in every sense in which it is possible to have it but the fact has no implications at all for the existence of God or of the soul.

5 The argument from evolution

Vander Elst's remarks on evolution show that he is not merely opposed to the theory but is an out and out

creationist. The latter possibility may be discounted until some explanation is forthcoming from its supporters of God's reasons for creating all the monstrous species that appear to have flourished in previous geological epochs. Perhaps the fossils were planted by God to test our faith and the monsters never really existed at all. That was one of the early explanations offered of their presence but one does not hear it much nowadays. But why did God create sabre-tooth tigers on four occasions and allow each separate species to become extinct?

The paucity of evidence on which evolutionary theory has to rely is unremarkable. In all departments of knowledge we have to rely on what evidence there is. In the case of evolution the evidence is fossils in available geological strata relating to the period in which the fossilised organism flourished. These strata occur rarely. Subsequent geological activity may have buried them too deeply to be accessible now and if they are or were on the surface they may have been weathered away or destroyed by animal or human activity before their significance was understood. The time-scale of evolutionary change is, in general, so slow as to be undetectable within a human life-span and barely detectable over recent recorded history but it does give us a rational account of how the facts available to us now may fit together. An account that is adequate enough to be taken for granted by almost all biological scientists (who remain, nevertheless, more aware of its gaps and deficiencies than creationists like Vander Elst). The creationist alternative does not amount to a theory. It requires reliance on the Bible as God's revealed truth. But circumstances surrounding the birth of that document, while not detracting in any way from its interest to historians, show that it was a human creation (which may be wrong about matters of fact) not a divine revelation,

6 The argument from computing

Vander Elst on computers is scarcely more satisfactory. Enthusiasts are, admittedly, inclined to refer to them as 'brains' that 'think' but no one is seriously misled by that. Computers compute what they are told to compute by their programmers and demand absolute precision in their instructions but they do not suffer human liability to error in matters of routine calculation and can perform such calculations on a scale and at a speed inconceivable with merely human resources. Long ago it was realised that even if you can afford to employ rooms full of women with comptometers there is no point. On average, one key stroke in ten will be wrong. The errors may cancel each other out or they may not—no one ever knows. So the overall result of any complex calculation cannot be relied on. More recently it has been shown that this is not merely a practical difficulty. Some part of nature may justly be representable by a system of hundreds or thousands of mutually interacting equations which can be simulated on a computer (in order to generate predictions of future events). But when we do so we are obliged to provide the computer with initial conditions specified to a given degree of exactness. Meteorologists who had been working to six places of decimals found that working to seven did not always generate the same predictions. It could result in completely different predictions. Nature remains fully determined as before but our predictions may still be wrong; so it is always possible that nature will surprise us. Increasing precision of specification of the initial conditions reduces the likelihood of error but cannot eliminate the possibility. Prediction by this method of the weather more than fourteen days hence is now known to be a theoretical not a practical impossibility.

If anyone wished to design an artificial human organism it would be necessary to provide, over and above a computing facility, goals which the organism wished to attain (as the natural human organism wishes to attain food, shelter, human contact, etc.); sense organs (like human sight and hearing) instead of input sockets; and some equivalent of the experience that a human being gains for him or herself in the first twenty years or so of life. All these things can in principle be done separately but to do them simultaneously is at present beyond our reach. Cognitive science will need to make immense strides before such a result can be achieved. Real human organisms are much easier (and more fun) to reproduce. In limited areas of activity computers can even now surpass the human. They can defeat chess masters. But the computers that do this do nothing else (as much appears to be true of some of the chess masters). We would not regard as human an organism that could really do nothing but play chess. There is again nothing in Vander Elst's argument relevant to the existence or non-existence of God or of the soul.

7 Conclusions

I conclude, contrary to Vander Elst, that there is no evidence for the existence of a God answering to the Judaeo-Christian description. Belief in such a God remains possible. In my experience, many believers hold that 'proposition P (e.g. "God exists") is very probably false but I believe it'. Their reasons are various. The idea is comforting to some, particularly now that most people have ceased to care what the Christian religion actually says about God and his attitude to his creatures. Considerable sophistication is required to live happily in the knowledge that some, apparently profound, questions have no answer and many more have no answer known to us at present. Why, for example, should human life have a purpose any more than, say, dinosaur life? Merely to ask the question assumes that there is some kind of superior being for whom human life could have a purpose. But

that is just what is (or should be) in question.

Admittedly, there is comfort to be had from the conviction that there must be answers to all questions; particularly as the superstructures of religion persist and believers continue to insist that they (often only they) know what they are. Why, for example, does evil exist? Answer: it is all our fault as human beings; God is, of course, absolutely good (among other things). Why does he allow it, if he is absolutely good, etc. Answer: because he has made us, his creatures, in his own image and so we must have free will like him. Suppose a nursery-school teacher were to say one day, 'Come along children, let's go and play on the grass verge beside the motorway. I know some of you will be injured or killed but you all have free will, like me'. He or she would be regarded as criminally stupid. But the gulf between the child and the teacher is infinitely narrower than that supposed to exist between the adult and God. Or so religion would have us believe, Why is God blameless?

Vander Elst has a great deal to say on the subject of individuals whose pride and sense of personal autonomy is wounded by the idea that they are in any sense dependent on a divine creator. I have never met such a person (Vander Elst appears to believe that anyone who disagrees with him is such a person). What I have met are persons who clearly derive great pleasure from reflection on their own worthlessness and inadequacy and take delight in self-abasement. This kind of behaviour is actively encouraged by the Christian religion; see, for example, the instruction manuals for postulants in religious houses. It is certainly behaviour more typical of human beings than is the kind to which Vander Elst takes exception. Many prostitutes depend on it for their living. But does it serve any useful purpose? Should it really be encouraged?

Anyone who accepts a religious belief system no longer needs to worry over difficult questions. He knows the Truth and there is no more to be said. He gains in addition a satisfying sense of solidarity with his co-religionists. But if what he knows is the Truth with a capital T, then surely anyone who disagrees must be either stupid, ignorant or deliberately wrong-headed. If instruction fails, such people may surely be persecuted with a good conscience. Two thirds of the world's armed conflicts have their basis in religious differences. Virtually all, if Marxism be counted as a religion.

As has frequently been observed, there is no Truth with a capital 'T'. Everything that we believe to be true is either based on observation (and subject to correction by new observations) or it is derived by deduction and depends for its acceptance on shared premises which may at any time cease to be shared. That is the human situation and we must hope for all our sakes that the fact will come to be accepted more and more widely. Belief in the existence of the Judaeo-Christian (or any other) God and the residual power of religious institutions world-wide, is the principal obstacle in our path.

Edinburgh

Continued from p. 130

Hager,P. (2000) 'Know-how and Work-place Practical Judgement' in *Journal of the Philosophy of Education Society of Great Britain* volume 3, issue 2,pp 281-296.

Harré, R. (1977), 'The Structure of Tacit Knowing', *Journal of the British Society for Phenomenology*, vol. 18, No. 3.

Oakeshott, M. (1933), *Experience and Its Modes*, CUP, Cambridge.

Oakeshott, M. (1967), 'Learning and Teaching' in Peters, R. S., *The Concept of Education*, Routledge, London.

Polanyi, M. (1958), *Personal Knowledge*, Routledge, London.

Polanyi, M. (1959) *The Study of Man*, Routledge 1959.

Watkinson, S. (1999), 'Tacit Knowledge and Professional Judgement', *Appraisal*, Vol. 2, No. 4.

Continued from p. 134

8. The Great Quaker Bell was rung on 8 July 1776 to celebrate the Declaration of Independence. Thereafter, it came to be called the 'Liberty Bell'. Its Quaker origins have tended to escape notice.
9. E B Emmett *A Short History of Quakerism* .(New York, Doran. 1923)
10. Lewis Thomas, *The Fragile Species*, (Macmillan, 1993 pp. 156,7)
11. *ADVENTURE: the Faith of Science and the Science of Faith* (Macmillan. 1927, p. 40)
12. Polanyi and Prosch: *Meaning* (U. of Chicago Press,1975 p. 197)
13. Polanyi: *Personal Knowledge* (London: Routledge, 1958, p. 212)
14. Ibid. p. 266
15. Ibid., p. 299.
16. Carl Rogers: *On Becoming a Person* (Constable, 1961 pp. 22, 24, 25)
17. The Royal Society owed its inception as much to the Reformation as it did to the Renaissance. It developed out of a scientific group established in Oxford during the Interregnum with the express intention of diverting lively minds away from the dangerous subjects of Religion and Politics into the calmer waters of Natural Philosophy, 'that gives us room to differ without animosity . . . without any danger of a civil war'. The first meetings were held 'in Dr Wilkins his lodgings in Wadham College'. Dr Wilkins was the first secretary of the Royal Society; Thomas Sprat wrote its early history. Both were clergymen of the Church of England. See Arnold Toynbee *An Historian's Approach to Religion* (OUP, 1956 p. 183)

Continued from p. 156

The latter philosopher, a Bulgarian-French member of *Tel Quel*, operates inside the areas of contemporary realist phenomenology, post-structuralism, and psychoanalysis. Her case is of interest insofar as she claims that embodiment is the solution to the sceptical gap between language and world. In her groundbreaking *Revolution in Poetic Language*, Kristeva distinguishes the linguistic domain into the symbolic (namely a differential structure of elements of significance) and the semiotic (namely a system of bodily drives both conscious and unconscious). The former constitutes the realm of the meaning of words; the latter element constitutes the realm of the meaning of life; both of which Kristeva sees as fundamentally interrelated. She believes so because of the fact that human existentially relevant self-expression takes place through linguistic devices—at least more than in any other way—and because of the fact that these devices are there in the first place! Why would we need them, if they had no bearing to our life? As Nietzsche asked 'Why ask why?'? similarly Kristeva wonders: 'Why meaning is meaningful?' Most philosophers, people like, say, Saussure, Derrida, Quine, and Davidson, have dealt exclusively with the symbolic, neglecting the crucial space deserved by the semiotic. Ian Hacking, whose horizon is only extensively limited by the 'Herculean pillars' of the theories of Goodman and Kripke, does the same for a very large part. In other words, his approach to language is mainly a top-down one, which comes from understanding it as a theory (or a text), rather than a bottom-one, which Kristeva adopts from her experience as a psychoanalyst, and which is concerned with understanding it as a way to give sense to one's life, not only to one's words. In other terms, comparing Kristeva's intuitions on language with Hacking's general approach, it can be said again that the latter tends to be overly theoretical, but it would be unfair to deny the validity of his attempts in order to look at dramatic problems such as child abuse and mental illness—namely at individuals who live, feel, and suffer through language and the use we make of it. 'Anti-representationalistically' enough, Hacking refers to a dynamic—therapeutic—view of the structures of significance, so that intellectual enterprise does not remain static forever. He envisages the risks connected with semantics' dominance, and he invites for the enhancement of more pragmatics. It is not *theoria* alone that guides his pen, but also praxis.

BOOK REVIEWS

R. E. Allinson
A Metaphysics for the Future
Ashgate, 2001; xxxix + 284 pp; £45; ISBN 1 84014 928 0.

The author's aim is the admirable one of seeking to revive philosophy after its death at the hands of Wittgenstein and 'Post-Modernists' or its subordination to other disciplines. In particular, he wishes to revive metaphysics, but, instead of going straight into it, he focuses in this book on establishing that there are truths which are known to be true, universal and necessary in the very act of knowing of them.

These truths, as the data of pure phenomenology, are the proper and exclusive domain of philosophy. From them analogical truths about the world may be found, but for the latter, and thus for the fruitfulness of his approach, and in regard to metaphysics in particular, the author refers through out this book to its sequel, *Space, Time and the Ethical Foundations*, also to be published by Ashgate.

He holds that philosophy is a search for foundations, because 'transcendental' arguments in the style of Kant and the articulation of presuppositions still leave everything up in the air. That is, he implicitly rejects a fiduciary and falliblist account of human knowledge, but, against current rejections of 'Foundationalism', argues that foundations are not discovered once and for all nor are premises from which everything else can be deduced. Rather, additional ones must always be sought, new ones constructed for further explorations, and existing ones corrected and refined (p. 196). As indicated, they are to discovered in 'pure phenomenology', 'transcendental reflection' or 'transcendental introspection', for which 'pure consciousness' as constituted by the *epoché* is both the mode and the subject-matter. Philosophy proper takes place within and solely within pure consciousness and is that reflection upon consciousness which is pure consciousness, 'the thinking about thinking' that Aristotle ascribed to God. Unlike Husserl, Allinson takes little interest in the 'noetic' side of the structures of consciousness, rejects the intentionality of consciousness as a 'theory' or 'construction' and not itself a datum of pure phenomenology, and concerns itself principally with the 'noematic' side—the contents of consciousness—or rather some aspects of it, and *never* goes outside pure consciousness and the *epoché* which constitutes it to any thought of 'things in themselves' or 'the external world'.

The paradigm of pure phenomenology is Descartes' *cogito*: the immediate self-certainty of 'cogito, sum' (no 'ergo', no inference, no proposition), the undeniable facts of consciousness in its own reflection upon itself and of its capacity for self-revelation. For this no proof is needed, and, in any case 'ultimately it is the mind which approves of proof'. Knowledge that something is present to mind is a certain truth which cannot be based on inference but is known by an act of transcendental introspection. The grounds for certainly in this and similar cases lie not the object grasped but in the very act of grasping. The *cogito* is also a unique case, wherein epistemology and ontology unite: 'The being of the subject knower is realized only through this private act of recognition of one's being' (pp. 128-9). Allinson holds that the *cogito* does not prove the existence of an 'I' but only the phenomenological existence of consciousness:

> The subject knower, or, more precisely, the act of consciousness of the subject knower is the very same consciousness that is known. *The subjective knowingness of the consciousness of the subject knower is consciousness itself in its active mode. The very act of the awareness of consciousness is the same as consciousness becoming ware of itself* (p. 130).

Another paradigm for immediate certainly in which what is known is thereby known to be true is the apprehension of an elementary mathematical truth such as '1+1 = 2'. All such truths

> are perceived as certain because their very intelligibility derives from the truth of their content. In this sense, they are certain truths. *But, it is not their certainty that makes them true; it is their truth that makes them certain* (p. 133).

About this programme, some doubts may be raised:

1. If philosophy is pure phenomenology as characterised by Allinson, then it results are likely to meagre and not to go much beyond his account of the *cogito* itself. Of course, we must await the sequel to discover how far Allinson thinks he can go by way of analogy.
2. Can the *epoché* be carried through in any case? Probably not. For:

(a) consciousness is after all intentional and that as a phenomenological fact: every act of awareness *is* an awareness *of;* self-reflection has awareness for its object; and as Allinson rightly states, pure consciousness cannot be empty consciousness;

(b) hence consciousness is primarily 'ecstatic', directed towards the world and not itself, so that, as Merleau-Ponty said, the lesson of the *epoché* is that finally it cannot be carried through and that 'the sparks of transcendence fly upwards'.

3. Allinson rightly mentions the reality of pre-linguistic (pre-conceptual) knowledge, such as that of *idiots savants* who do not know how they perform amazing calculations, and post-linguistic (post-conceptual) knowledge such as Kant's knowledge that there are two sources of knowledge (1st *Critique*, B29: sensibility and understanding; or, B55, space and time). That can be articulated in concepts and words (i.e.

'transcendental reflection' itself) but the original insight must itself be non-conceptual. But from this it follows that we can never know from direct awareness alone that our present focal knowledge is all that we are now aware of. This places a limit on all phenomenology, and hence Merleau-Ponty's use also of Gestalt psychology and the study of abnormal cases, such as the unfortunate Schneider, to reveal what we otherwise overlook because it is normally omni-present. Phenomenology and philosophy with it can never be so sharply separated from empirical knowledge as Allinson requires.

There are some minor annoyances, such as spelling 'God' as 'G-d' and a failure to run 'Find and Replace' to eliminate the many double spaces scattered throughout the text.

This is an intriguing and thought-provoking book. It is brave attempt and the author is right to make it, even if his project can meet finally with only partial success.

R.T. Allen

Andreas Dorschel
Rethinking Prejudice
Ashgate, *New Critical Thinking in Philosophy*, 2000; xiv + 158 pp; £40; ISBN 0 7546 1387 9.

Although the author, with relevant citations (a notable feature of this book), acquits the Enlightenment as such of Gadamer's accusation that it had 'a prejudice against prejudice', his principal concern is with those figures in the Enlightenment who did think that prejudice, as pre-judgment (*Vorurtheil*), is wrong *per se* and therefore to be eliminated, along with those, such as Burke, de Maistre, Bonald, Frederich Schegel, and Gadamer today, who have defended it.

He carefully and in detail examines the meanings ascribed to 'prejudice' and the arguments used for and against it, along with objections and counter-objections in turn, giving his own as well as those of his sources. Navigation through the discussions is made easier by two pleasingly old-fashioned features: the use of continuously numbered sections and an Analytical Table of Contents referring to them (but not also to page numbers), plus retrospective and prospective references to them throughout the text.

Among the themes discussed are:
Kant's call that we free ourselves from prejudice by 'thinking for ourselves' as opposed to relying on others, which cannot be sustained, because the latter requires at least some practise of the former and reflection itself can embody, and we cannot but rely on second-hand knowledge;
the 'economic' argument for prejudice, that it saves time, which, on the whole, he upholds because human knowledge is always a compromise between breadth and depth;
that prejudices are not based on experience but hasty generalisation, whereas it is prejudices which shape experience (or interpretations of it) and so are not removed by citing other examples, which can always be discounted as 'exceptions';
that prejudices are stupid, but not inherently so;
prejudice distinguished (against Gadamer) from expectation and perspective;
prejudice in relation to precedent and tradition;
the paradox of recommending prejudices, for which reasons have to be given and hence prejudices no remain prejudices, which can be resolved by recommending prejudices in general, as necessary to human thought and life, and not some in particular for which reasons would be required, or in recommending them for others, those who could not understand the reasons, such as children;
prejudice, 'open-mindedness' especially in its historically relativising form, and the need for some limits to what is to be examined, experimented, debated and 'on the agenda' (to use a modish phrase), as witness, satirically, Swift's *Modest Proposal* and, seriously, de Sade and Auschwitz: our fundamental moral beliefs are necessarily 'prejudices' because the chain of reasoning must stop somewhere.

It is with these last points, and in particular the example of Antigone, that the author approaches the core of the defence of prejudice as given by Burke, for one: that firm and unquestioning belief in basic principles is needed so that we can remain deaf and impervious to the specious reasons of sophists who would 'turn our duties into doubts' and tempt us into performing the unconscionable.

His general conclusion is that prejudices are not wrong, stupid, narrow, intolerant, violent, etc. *per se* and that some are necessary. Hence (and this is more implicit) they need to be judged case by case.

All this is accomplished with a lightness of touch that one does not expect from German philosophers (but then the author teaches at the University of East Anglia and so has obviously become partly Anglicised—an example of the defence of prejudice via 'exception').

There are some themes that would merit further exploration, and genuinely critical thinking—e.g. authority and the need to rely on it, 'autonomy', the prejudices and classifications embedded in every language (de Bonald), 'open-mindedness'—perhaps in other volumes in this series, which could also usefully give more contemporary references. For today, certainly (as the reviewer can testify within philosophy of education and educational theorising and chatter generally), there is a general 'Liberal', 'critical', 'Progressive', and 'enlightened' 'prejudice against prejudice' and the linked closedness of mind about the need to close one's mind, the authoritarian dismissal of authority, and a thorough indoctrination of students about the evils of 'indoctrination'. Fully to engage these attitudes one needs to articulate or to draw upon an alternative and radically different philosophy, one

that is post-critical and fiduciary such as that with which most readers of *Appraisal* are probably familiar.

R.T. Allen

David Lamb

The Search For Extraterrestrial Intelligence: a philosophical enquiry.

Routledge, 2001; 210 pp.; ISBN 0-415-24342-4; £11.99 (pbk)

The Search For Extraterrestrial Intelligence: a philosophical inquiry offers a comprehensive critical overview. Lamb is concerned with several key issues in the search for extraterrestrial intelligence (SETI): the scientific status of SETI, the assumptions used by researchers in this field, the proper role of speculation, and justifying the search for extraterrestrial life.

Lamb asks whether we are justified in thinking of SETI as a science? He makes clear the general problems of justification and methodology associated with any science. However, rather than making this book another offering in the philosophy of science, he chooses instead to evaluate SETI on the basis of whether it is consistent with our current views on what science is. Lamb concludes that although SETI can be criticised on a number of issues the overall methodology is consistent with general scientific practice. There are two features that mark SETI out as a scientific enterprise. One, SETI offers theories that can be empirically tested, i.e. they can be falsified. Two, SETI, in conducting its research, does not go beyond current technology or theories in other domains, in other words it does not postulate fantastic life forms or physical theories that goes beyond what we currently know.

Having established SETI's scientific credentials Lamb is more critical of the assumptions underlying research in this area. This part of the book involves some technical details, but Lamb manages to make this accessible to the non-scientist. Assumptions fall into the categories of either how we search or where we look. On the issue of how we look Lamb discusses the radio frequencies used to listen for non-natural extraterrestrial noise. The range of frequencies suitable for listening is based partly on pragmatics; there is a range of frequencies that is 'quiet' from natural noise. But a preferred frequency for listening, that falls within this quiet area, is based on the rate at which hydrogen atoms emit radiation. The reasoning behind this is that hydrogen is the most abundant element in the universe and the rate of radiation emission is a constant, an extraterrestrial with the technological ability to communicate with us will know this. However, as Lamb points out, there are no guarantees that the hydrogen atom will have the same significance for other life forms as it does for ours. On a more fundamental level, there is the problem of whether extraterrestrials would choose radio as a means of communicating; recent developments in laser technology suggest the possibility of using lasers to communicate over vast distances. Although these assumptions can be seen as problematic for SETI, they are not overwhelming, the real problem comes when we consider where we look for extraterrestrials.

Lamb points that where we look is based on several stages, each with its own set of assumptions. First of all we have to find a suitable site for life. This tends to be planets similar to ours at roughly the same distance form their sun. Next, we assume that life will evolve on a planet similar to ours. Lamb argues that we have practically no idea how life started on our own planet so we cannot assume that life will evolve in similar circumstances, to do so would be to confuse the necessary conditions for life with the sufficient. Having 'established' that life evolves we assume that intelligence will emerge, again Lamb points out that it is not clear that intelligence confers an evolutionary advantage, in which case you cannot use evolutionary theory to support the emergence of intelligence. The next stage is to assume that intelligent life will organise itself into a society and develop a technology roughly similar to ours. Lamb argues that once we consider cultural rather than evolutionary factors then a particular outcome is even less determinate. Finally, there is the problem of communication; even if we received a message would we be able to understand it? I found this discussion effective in conveying the huge range of problems facing SETI. However, Lamb concludes that they are not insurmountable; technological advances means that we are starting to observe planets in other solar systems and, ironically, a better understanding of ourselves and life on earth may solve some of SETI's problems. One of the strengths of this discussion is that is stresses the interdisciplinary nature of SETI.

With so many unknown quantities SETI is ripe for speculation. In the latter part of the book Lamb considers some of the more outlandish theories, such as the possibility of extraterrestrial supercivilisations. Lamb believes that speculation is justified at the creative edge of theory formation, in other words speculation is warranted in the context of scientific discovery. However, Lamb argues that this needs to be constrained; theories that cannot be tested are of no use and theories need to be stated in terms that exclude competing hypotheses. One theory that is considered is travel by information transfer, basically this is the idea of downloading consciousness into intergalactic cyberspace. Lamb points out that this raises profound philosophical problems, for instance the issue of whether consciousness can be reduced to information. At the end of this discussion Lamb argues that information transfer is implausible as a form of travel when we consider our experience of the internet. The

internet community is parasitic on an actual, physical community and is no substitute for physical contact. This may be true, but Lamb's discussion of the internet deflect from the real problems of information transfer. It seems to me, that even if it were possible to download consciousness into a computer why would that information need to travel? It would be just as easy to download the experience and send that to the computer 'containing' the consciousness. Lamb's treatment of the internet is the one disappointment of the book.

Lamb's final concern is the justification for SETI. He appeals to our psychological motivation; our desire not to be alone. This does not justify us in thinking that we are not alone, but it justifies the time and expenditure involved in the search. SETI is also justified on the grounds that although we have not had a positive result so far, we have only looked at a tiny fraction of space. If after an extensive search we have not made contact with extraterrestrials then we may have to conclude that we are alone.

Overall, I found *The Search For Extraterrestrial Intelligence* entertaining and thought-provoking. Lamb uses an extensive range of up-to-the minute research. He also manages to encompass all the major issues associated with SETI: this includes government funding and space pollution. You get all this and an easy, accessible style! Lamb's final words sum up the importance of SETI,

> If extraterrestrial intelligence is found and contact is made, it will be truly important. If we do make contact our children will be astonished to discover that we made so little effort to do so, and then they will laugh at those who denied any possibility of contact. But if after a massive search, we fail, that too will be important, as it will convince many of us that if this is all there is, we should do our best to protect it.

Lyn May

Richard Wilton
Consciousness, Free Will, and the Explanation of Human Behaviour
The Edwin Mellon Press, Lampter; 2000; 277 pp; IBSN 0-7734-7682-2 hbk.

Wilton declares that the assumption that states in the world are determined by prior states is unwarranted, as is the claim that our classification of observations faithfully records the composition of the world. Science ought to restrict itself to what can be observed. Any theory that assumes that the behaviour of human beings is solely determined by causes and effects fails to account for first person facts about consciousness, intentionality, and motivation. If we accept that human beings can bring about any number of different states of affairs, this carries with it the implication that human behaviour cannot be deduced from a theory, although behaviours can still be expected. Wilton asserts that perception of the external environment is represented internally by statements in mentalese i.e. a language of thought. The marks that express these statements are realised by sensations. These sensations are free of interpretation, and can be identified using the same terms as those that are used to refer to material objects. Not all the information in a percept enters consciousness. An explanation of behaviour that refers only to causes and effects fails to account for the reason why information enters consciousness. I welcome the attempt by Wilton to acknowledge the reality of human agency, but since I do not share his assumptions about the nature of experience and representation, I cannot say that I found his account persuasive. Even if I accepted his assumptions, I am not sure that his book would convince me that he had helped to explain the phenomena that he seeks to describe. This may seem a harsh criticism to make of a book that sets itself the task of explaining consciousness, free will, and human behaviour, but it is not one that separates it from most other books concerned with these questions, because the problems are notoriously difficult.

C.P. Goodman

Harold Turner
Frames of Mind: A Public Philosophy for Religion and Cultures
The DeepSight Trust; PO Box 87-362, Meadowbank, Aukland, NZ, www.deepsight.org, 2001; 304 pp; ISBN 0-95820212-3-4
This book and its predecessor, ***The Roots of Science****, can be obtained direct from the pub- lisher and be purchased with credit or charge card.*

Richard Allen gave a justly favourable review of Harold Turner's first volume, *The Roots of Science*, in *Appraisal* (Vol. 4 No. 2, October 2000), and both books can be seen as parts of the same endeavour: to offer an accessible and well-grounded view of how science and faith have been and still can be complementary within an intelligent Christian world-view: a world-view which draws profoundly on Michael Polanyi and Leslie Newbigin, as well as on the Fathers of the Church such as St Augustine and the recently rediscovered John Philoponus.

For readers who have not been in contact with Turner, it is interesting to note that he is nearly 90 and has recently survived several major operations. He and a small group of friends in New Zealand maintain a outpost of Newbigin's Gospel and Our Culture network in the southern hemisphere and the Pacific. This is a co-ordinated movement of writing and teaching aiming to challenge the prevailing secular 'Liberal' ethic and to offer instead a coherent Christian world-view.

I do not feel sufficiently well-read to give a full appraisal of Turner's opus. It is, however, exceptionally interesting and original, and will appeal especially to those who are familiar with Polanyi's writings. For

such a reader it may be a good idea to start at Chapter VIII, 'The New Way of Knowing', and then continue with the following chapters which are an exploration of what Turner calls 'deep relationality' and which tie together the stories of Faraday, Maxwell, Einstein and Polanyi. Turner does not, however, explore the other directions in which 'deep relationality' is making its mark on biological, evolutionary and anthropological thinking (e.g. via Stewart Kauffman, Brian Goodwin and Tim Ingold). That, perhaps, awaits another hand.

After that, the earlier chapters can be read with a stronger sense of 'where we are going'. One can see several similarities with Henrik Skolimowski's remarkable book, *The Participating Mind* (Arkana, Penguin 1994). This, however, is more charitably disposed to ideas from some non-Christian traditions such as Buddhism. Harold Turner is sometimes slightly lacking in 'openness', but he doesn't lack much else.

Robin A. Hodgkin

Lee Congden

Seeing Red: Hungarian Intellectuals in Exile and the Challenge of Communism

DeKalb, IL., Northern Illinois U.P.; 2001; 224 pp.; $40.
ISBN 0-87580-283-4.

The author (whom I met ten years ago in Budapest at the Polanyi Centennial Conference) is Professor of History at James Madison University. In 1991 he published, *Exile and Social Thought*, which dealt with those Hungarians who went into exile in 1918, but which stopped at 1933. This new volume is both wider and narrower: wider as it continues after 1933, through the second exile of 1956, and up to the present; narrower in that focuses upon reactions to Communism and the Soviet Union, and so some who figured in the former work, such as Karl Mannheim, are omitted in this, presumably because they wrote little about Communism. There is also a secondary focus upon those who came, directly or eventually, to Britain.

The Preface concludes with a long quotation from Edmund Burke, predicting (correctly as usual) that, if Christianity is cast off, 'some uncouth, pernicious, and degrading superstition might take place of it'. Communism was the predominant superstition that sought in the 20th century to fill the nihilistic vacuum created by the demise of Christianity in Europe. (I received the review copy on September 12th, when the whole world had been reminded of another degrading superstition and fanaticism that feeds on nihilism, and draws to itself other movements without scruples.) National Socialism was another competitor in that field. As Hitler himself said, 'One cannot take away from the people the false idols of Marxism without giving them a better God' (quoted, M. Burleigh, *The Third Reich: A New History*, p.84). But the none of the Hungarian emigrés were tempted to worship at that altar. With Communism it was different, and the subjects of this book fall into three main groups:

1. those who retained faith in or allegiance to Communism, the Soviet Union or Marx;
   the chief figures in this group are Gyorgy (George) Lukács, Karl Polanyi and Istvan Mészáros (left Hungary 1956, Professor of Philosophy at Sussex 1976-91);
2. those who abandoned Communism and turned against it;
   here the leading figures are Arthur Koestler, Imre Lakatos (who engineered the suicide of a 17-year old girl because, without anywhere to go, she was a threat to her comrades in hiding, and who, having subverted and destroyed the prestigious Eötvös College in Budapest in 1946-8, twenty years later led the academic resistance to the student radicals at the London School of Economics) and Tibor Szamuely (born in exile in the USSR, went to Hungary in 1953, left for Ghana in 1963 and came to Britain in 1964);
3. those who had always opposed Communism;
   this group consists of Michael Polanyi and Aurell Kolnai.

The book proceeds mostly chronologically, with an Introduction on on the new faith of Communism in the 1920's, and chapters on 'The Soviet Experiment' (1930's), 'The War Years', 'The Cultural Cold War', and 'The New Emigrés' (1956+), closing with an Epilogue on 'Beyond Anticommunism', the efforts of Koestler, Michael Polanyi and Aurel Kolnai to find a positive alternative to nihilism and the false religion of Communism.

The principal figures from the older generation—the Polanyi brothers, Koestler, Lukács, Kolnai—come and go throughout the period, and the author, by the use of thematic as well as chronological links, skilfully weaves the episodes of their stories with the adventures of the other exiles, and often a strong supporting cast of non-Hungarians with whom they co-operated or whom they opposed. Thus the author provides, *inter alia*, illuminating accounts of local fellow-travellers (e.g. Bernal, Crowther, Hogben, who advocated the Marxist planning of science which Michael Polanyi and John Baker opposed) and 'useful idiots' (e.g. the Webbs and John Macmurray), of the organisation and work of the Council for Cultural Freedom, and the general political and intellectual climate of the time. The one fault is a certain lack of information about some of the less familiar Hungarians, and of reminders about who they are when they re-appear later on. Otherwise this is rewarding study of a very significant group of diverse people during formative periods of our history, and will be of especial value to those interested in Michael Polanyi, Koestler and Kolnai.

R.T. Allen

FORTHCOMING CONFERENCES

Annual Appraisal/Polanyi Conference, 2002

The Person in the 21st Century

Hugh Stewart Hall, Nottingham University

Fri. 5th & Sat. 6th April

1. Papers:

The Conference is organised like a seminar, with a round-table discussion of the papers which are issued in advance.
Each session is 60 or 75 mins, with 10 mins (max.) for a brief introduction and the remainder for discussion.
Not all papers need be on the special theme.

2. Conference Fees:

Full, incl. Registration, Dinner, Bed, Breakfast, Lunch, Coffee, Tea, papers sent in advance, & VAT:
Single room: £67; Extra night B. &. B. £27
Non-residential rates also available; please ask, stating your requirements.

Bookings and offers of papers (by December 31st, please):

Dr R.T. Allen, 20 Ulverscroft Rd,
Loughborough, LE11 3PU, England
rt.allen@ntlworld.com

John Macmurray Fellowship

Annual Day Conference

John Macmurray and the Arts

in connection with visual art and drama as therapy

10.15 am-5 pm, Saturday 13th October 2001

Friend's Meeting House. 43 St Giles,Oxford

with Alan Ford and John Hands

Session 1: The Divided Self in the Visual Arts

Session 2: Persons in Relation

Fee, incl. simple lunch: £12; concession £6

Apply by Oct. 6th, with cheque
(payable to 'The John Macmurray Fellowship')
to:

Richard Thompson,
43 St Giles, Oxford, OX1 3LW
01865 557373; oxfordpm@yahoo.co.uk

Fee without lunch £8, concession £4:
no need to book

Collingwood and British Idealism Centre & The Political Studies British Idealism Specialist Group

British Idealism Conference

2pm 17th to 2 pm 18th December 2001

University of Wales Conference Centre,
Gregynog nr Newtown (Powys)

Speakers include: Rex Martin, David Boucher, Andrew Vincent, Colin Tyler, Maria Dimova-Cookson

***Fee, incl. travel, accommodation and Christmas Dinner,* £15 only.**

Contact:
Suzi Williams
Collingwood and British Idealism Centre
Cardiff University, PO Box 908
Cardiff CF10 3YQ

williamsse6@cardiff.ac.uk
029 2087 4855

Society for the Furtherance of the Critical Philosophy

Fourth International Conference

ETHICS AND SOCRATIC DIALOGUE IN CIVIC SOCIETY

Birmingham from 28 July to 3 August

The Conference will be divided into two parts:
Part A 2 or 3 Keynote presentations plus small group activities, such as workshops, discussion groups, poster sessions etc.—offers welcomed.
Part B Socratic Dialogue groups on topics arising from the conference theme, plus talks and discussions about the Socratic Method in theory and in practice, and an introduction to 'what is involved in becoming a Socratic facilitator'.
Reduced fees for those on low incomes.
It is hoped that most participants will wish to enrol for the whole conference, but it will also be possible to attend only Part A or B.

Contact:
René Saran, SFCP, 22 Kings Gardens, London NW6 4PU. www.sfcp.org.uk

INDEX TO VOLUME 3

4 issues with continuous numbering: issue number followed by page number.

1 Articles (including Working Papers and Discussion items)

2 Books reviewed

3 Authors and Reviewers

Tradition & Discovery: Vol. XXVII, No. 3, 2000-1

Ronald L. Hall: 'Remembering Bill Poteat'

George R. Hunsberger: 'Faith and Pluralism: A Response to Richard Gelwick'

Ronald L. Hall: 'Jerry Gill on Polanyi, Modern and Post-Modern Thought: A Review Essay'

Jerry H. Gill: 'Reply to Ron Hall's Review'

Annual subscription $10. Contact: Phil Mullins, Missouri Western State College, St Joseph, MO 64507, USA; mullins@griffon.mwsc.edu