



Common Sense

A Journal of a wholly new type



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Common Sense

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The illustration on page 81 is entitled 'Another Dreadful Suicide at the Monument'; the illustration on page 84 is a detail from 'Reviewing the Blue Devils' which, in 1833, depicts members of the recently formed Metropolitan Police.

Note for contributors: send articles in clean typescript, as we reproduce direct from what we receive. Type in single spacing or space-and-a-half (not double space). Leave wide margins on both sides, and wide gaps at top and bottom of each page. Start first page half way down.

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Last year, our current Education Secretary visited Moscow and offered students at the University of Moscow his opinions on glasnost. Reagan, some time ago, had hectored them from quite probably the same lectern. The Western media reported that the Moscow students responded to Kenneth Baker's speech with "oohs" and "aahs" of delight because he told them that, in the West, speech was free. There's a photocopying machine in every corner shop, he averred, and it takes only the possession of a desk-top computer to enable anyone at all to produce and publish the magazine of their choice.

The editors of Common Sense perused these reports with something of a wry smile. First of all, we thought, there's the matter of the copyright law which seems to have grown new teeth under Thatcher: so much so that universities are afraid to produce multiple copies of set texts for students, a practice which in the old days used to go forward vigorously and upon which some of the most exciting teaching relied. In one case well known to us an academic was denied permission to photocopy an article written by herself.

Our second smile was in response to the corner-shop image. Corner-shop photocopying is amongst the most expensive methods of reproducing a text known to humankind. Speech may be free but the reproduction of written prose isn't. The consequence of this is that queues exist wherever it turns out that reproduction is (relatively) cheap. Queues, we used to understand, were one of the evils of centralised state planning. No queues under Thatcher! It's evident that Mr Baker is not producing a small journal on a shoestring budget and that he doesn't live down our road.

All this is by way of supplying an apologia. We regret the gap, caused by queuing, between Common Sense numbers 5 and 6. Regular readers of Common Sense who may have been aware of an absence in their lives can now be reassured. We are alive and, despite choking into our beer over the pirouettes of Goodman Baker, still well. Since there is still a world to change, Common Sense is still in the business of changing it. From now on we trust that issues of our journal will follow hard upon one another's heels.



Common Sense

The Scientific Fallacy:

Excluding Psychologists from Psychology

Andrew Duncan

There have been two major lines of research devoted to the construction of a proper discipline of psychology. On the one hand we have had what might be called the ideographic, literary type of approach, identified perhaps with psychoanalysis, with phenomenology, with existentialism and other essentially non-scientific movements. These rather different approaches have indeed looked at man as a whole, but in a disorganised, unscientific and fundamentally subjective manner. The student has a choice of either believing or disbelieving; he has no opportunity of objectively appraising experiments and proofs in the manner usual in a science. When I say that we must reject this approach I do not mean to put any restraint on people's choices; just as a student is free to believe in the truth of Christian, Moslem or Buddhist religions, so he is free to believe in the sayings of Freud, Sartre or Heidegger. Such a choice removes the students from the ranks of those who search for a scientific answer to the problem of man - *naturwissenschaftlich* rather than *geisteswissenschaftlich*. I shall not take the time to argue that in a very meaningful manner the former approach is superior to the latter; I shall simply leave the adherents of subjective and inspired truth to the contemplation of their particular navels, and concentrate on students who wish to approach the problem in a more objective frame of mind, subject to the rigours of theory-making followed by experiment and attempted disproof. [Eysenck, 1980, p.49]

Eysenck's attitude is an honest proclamation of an ideological position. The ideology is *scientism*. This is the belief that science is the only possible form that knowledge can take or the best from amongst alternatives. On the one hand there are proofs and objective appraisal of experiments, on the other there are choices from amongst subjective beliefs. Whilst subjective opinions are important, they are inferior to the objective and rigorous methods of science. Psychologists who do not wish to treat humans as wholes or subjectively by insight in a disorganised way, must follow the proper path of science and become overwhelmed by the evidence in its favour. Any other psychologist is simply not worth listening to irrespective of what his or her views happen to be.¹

Eysenck clearly believes that science is the only possible form that knowledge should

¹It is immediately interesting to reflect that this quotation is taken from the first page of a paper in which Eysenck proposes a "Bio-social Model of Man" which will "unify" psychology. It is not entirely clear how this unification is to take place when Eysenck has already excluded all contributions to human understanding which do not conform to his proper discipline of psychology.

take, anything else being simply belief or faith. The crucial difference is the use of experiments as attempts to disprove theories. In the sentence following the quoted section, Eysenck refers interested readers to debates within the philosophy of science – in particular those arising from the work of Popper – and clearly agrees with Popper that the correct method of doing science is the experimental testing of hypotheses derived from theories, and that any intellectual effort which does not, or is not able to, do this is strictly not scientific [Popper, 1972].²

Eysenck is perhaps unusual among psychologists because he is willing to proclaim his ideological commitment without embarrassment. Psychology as a whole is a little more reserved, but nonetheless ideological. For example, a brief survey of the **British Journal of Psychology** does not quite recapitulate Eysenck's opinion, but it does leave an impression of something rather similar. Of the 373 papers published in the **BJPs** during the 1980's, 308 are reports of experimental procedures, 47 are commentaries or reviews of evidence, 7 are methodological or statistical, while the remaining 11 are a miscellany.³ Of the 364, 97% are unambiguously scientific, and 83% are experimental reports. This shows simply that scientific papers are published in the **BJPs**, and thus that psychology is predominantly scientific; only if non-scientific papers are excluded can it be said that the journal is scientific. Exclusion is probably not the correct concept to apply, but there are very few non-scientific papers in the recent **BJPs**.

Indeed, the editorial board has recognised a deficiency and in 1985 it took stock of the way that it operates. An editorial comment in the third issue for the year noted the large number of submissions of reports of experiments on human cognition, and appealed for submissions from elsewhere. The Board was "eager to encourage more submissions from other fields of psychology and would [have] like[d] to [have been] able to consider a greater variety of papers." [**British Journal of Psychology**, Vol 76, p. 289]. Although it felt that it should maintain the general role of the journal and hinted that there are many more specialised journals available for those psychologists undertaking specialised work, the editors emphasised their policy of considering three kinds of paper: "(a) reports of empirical studies likely to further our understanding of psychology; (b) critical reviews of the literature; (c) theoretical contributions" [ibid].

²Popper's opinion of non-scientific endeavour is less straightforward than Eysenck's. It is fairly plain, however, that he thinks it to be of lesser value than science. There is no space here to deal with Popper properly, but it is arguable that his characterisation of work which does not meet his criteria of scientificity is at most patronising and at worst false.

³This classification is, of course, as arbitrary as any other. However, certain criteria were employed in making it. All "experimental reports" are written according to the formula intro/methods/results/discussion or some variation of this. Not all of these are strictly experimental, but all are empirical and involve some classification and codification of data. "Commentaries and reviews" are discussions of theory and evidence without reference to empirical work carried out and reported by the authors. The "statistical and methodological" papers are discussions of the formal methods of experimentation or of the statistical procedures whereby data are adjudicated. The "miscellany" is: 2 case studies of dyslexic people in the light of theories of dylexia; 6 short historical papers – 4 on Tolman, 2 on Burt; a psychodynamic consideration of self/other relations; an argument in favour of "contextualism"; and Skinner's polemic against cognitive science. Clearly these criteria suit my purposes, but others could be used.

This tripartite classification of writing is a scientific one: one can report empirical work, or review reports of empirical work, or contribute to theory – presumably with reference to reports of empirical work or reviews thereof.⁴

Whether they realise it or not, the editors of the BJPs tend towards scientism because the journal is a general one which, as a matter of policy, declares that greater variety and other fields of psychology can all be categorised within the tripartite division of writing quoted above. Since the papers submitted to the BJPs are largely scientific, it is reasonable to conclude that it is not all the things from which Eysenck so carefully distances himself. And this suggests some incipient unconscious or implicit scientism. Although not all psychologists are quite as brazen as Eysenck in the proclamation of ideology, it looks as if the process whereby psychological writing is produced fosters an ideological stance not far from his.⁵

This is not a criticism of science, it is simply an indication of the extent to which psychology, in reproducing itself as science, becomes scientistic. This happens to some extent by default – that is irrespective of the intentions of individual psychologists (although the very existence of the likes of Eysenck is not insignificant). It is also noteworthy that this situation can be glimpsed through a fairly mundane analysis of a very small bit of psychological writing. However, this paper is a discussion of the tendency for certain psychologists to assume that, or write as if, we are all in some respects scientific. *There are some psychologists who publish statements to the effect that human activity (or bits thereof) is in general scientific.* In this way the incipient scientism of psychological writing is projected⁶ out over everybody else.

It is, of course, obvious that not all human activity is scientific, but suspicion is aroused when one group of people declares that the activity of people in general is the same as that of the group. If bus drivers were to claim on the basis of their work that we all conduct our lives like bus drivers, we would not – I presume – pay too much attention. When scientific psychologists – whose labour is presumably dedicated to knowledge of human beings – declare that human beings are all scientists, human beings would be perfectly justified in wondering why. The more cynical might wonder why psychologists have got it so wrong – are they not human

⁴The BJPs's classification of writing is not dissimilar to the one made above. The first two pairs are virtually identical while my statistical/methodological and miscellany could fall within the rather more vague category 'theoretical contributions'.

⁵This argument declares my own ideological sympathy to Karl Marx – in this case to the opening chapters of *Capital Vol. I* [Marx, 1976]. I am treating "writing" as the vast accumulation of commodities by which the wealth of capitalist society is presented and through the contradictions in which the production process (writing) is revealed.

⁶Drever defines projection as "... the interpretation of situations and events by reading into them our own experiences and feelings" and as "... the attributing unconsciously to other people, usually as a defence against unpleasant feelings in ourselves, such as .. guilt or .. inferiority, of thoughts feelings and acts towards us, by means of which we justify ourselves in our own eyes" [Drever, 1952, p. 221]. Both of these meanings are applicable to the following discussion.

beings themselves? Do they not at the very least have their own experience of being human upon which to base more perspicacious thoughts?

Those of us for whom the writings of existentialists, psychoanalysts, and phenomenologists are to be taken as at least of equal value to those of scientists, and who remain committed to a psychology which is not the contemplation of our own navels, do not seem to have much option but to launch a full scale attack on much of what is called "psychology" simply because one seems already to have been launched on us. We have already been excluded. We can justifiably reciprocate and exclude those who do not meet the standards of what we consider a proper psychology to be. Anyone who has been intimidated by aggressive Popperians and who suspects that such a course is not scientific, need not worry: if science is objective, value free and disinterested, then no particular practice necessarily follows from this other than reporting what is the case. We need not make theories or test them by experiment, we can equally describe what we see and analyse this for patterns and contradictions which seem interesting. In any case, the attack here is on scientific psychology not on science.⁷

As is proper in science, I now present examples to support my contention that psychology's scientism is projected out over humanity in the form of general theory. Thus, those who have no experience of psychological writing might begin to see its inherent contradictions, and those psychologists who are alienated by Eysenck and the incipient scientism of the **British Journal of Psychology** might organise in opposition to these. (Those psychologists who believe scientism would probably regard my work as all very interesting but unworthy of serious consideration.⁸) The examples which follow are selected more or less randomly as reasonable examples rather than because they are making any particular claims. My intention is to indicate the projection of scientism over humanity by psychological writing and any discussion of the particular confusions this fosters is incidental to this main point.

Categorisation of sound patterns and of objects and events in the real world is basic to learning a language. [Nelson, 1977, p.223]

The theoretical scheme describes a child who actively organises and categorises the world on the basis of its observable functional properties, and then compares the categories used by others (as reflected in the language) to his own on the basis of the matching instances. [ibid, p.238]

⁷It is extremely important to grasp the difference between science and scientism. Unfortunately the two words are rather similar and do not adequately signify the difference. The reader is urged to make some effort of distinguishing the concepts in his or her mind, to read all words which begin "scien.." very carefully, and to understand these within the surrounding grammatical context. To reiterate: science is that activity which reports what is the case; scientism is the ideology which claims that a particular kind of science is superior to other kinds of knowing.

⁸But if any such psychologists are reading this I would urge them to take these words very seriously!

At first glance this example does not appear contraversial: language does indeed categorise the world, but it does not only do this – it also expresses feelings, polemicises, organises social roles, gossips, argues, communicates, and so on. To assume that the basis of learning language is a straightforward categorisation of sounds and objects, is to forget the many other uses to which it can be put, and to bias subsequent analysis in favour of the formal procedures of science in which the categories of language and the objects of the real world must be related in a determinate way. Nelson's assumption is scientific, and therefore her theory is scientific. The child actively organises and categorises the world on the basis of its functional properties – just like a scientist; then the child, having clearly connected his or her own categorisation with language, assumes that everyone else has done the same and compares categorisations – a procedure not unlike that employed by scientists communicating their work to one another through journal articles. Furthermore, Nelson assumes that language can be easily defined on the basis of sound patterns: this is no doubt scientifically convenient, but it excludes the possibility that language might have something to do with facial expression, gestures and gesticulation, and local social context.

Any scientific theory of the mind has to treat it as an automaton. This is in no way demeaning or dehumanizing, but a direct consequence of the computability of scientific theories. [Johnson-Laird, 1983, p.477]

Here is an explicit declaration that scientific theories of mind should treat it as an automaton because scientific theories – in order that they be scientific – must be computable. This reveals that computability of theory is a more important criterion of theoretical efficacy than empirical content. Scientific criteria seep into a general theory of mind and declare that all minds must be automata even if it is empirically obvious that they are not. The crucial assumption beneath the second sentence is an equation of humanism and science: presenting mind as an automaton is not dehumanising because this is done for scientific reasons. The sentence only makes sense on some assumption that science is good or otherwise humane. So this reads as if we should consider ourselves to be automata because this is what science demands and because science is good.

... I present a model of Man as a problem-solver, based on the assumption that successful problem-solving involves the following three elements in a proper relationship: (a) an agreed purpose to be achieved; (b) well-understood resources to be brought to bear in solving the problem; and (c) an effective strategy for making the best use of resources available. [Howarth, 1980, p.143]

Again, this example is quite explicit: Man⁹ is a problem solver – just like a scientist or technologist. But not only this: Man is a problem solver who shares a common purpose with his fellows, who understands many methods of solution, and who is prepared to choose the best one. Howarth's "Model of Man" is perhaps a laudable ideal from a scientific point of view, but it falls rather short of actual human experience: how much of life involves solving problems and how much of this is achieved by consensus of purpose and efficient use of resources? Not much. The model is an idealised description of scientific labour if it is anything at all – it could never be a general model of Man.

It may be argued that the scientific endeavour and perhaps the entire intellectual enterprise is directed towards the development of ever-more efficient means of processing and transmitting information. This is reflected by the advances in knowledge that characterise the development of individuals and of cultures. The pursuit of knowledge, like other human activities, may be assumed to serve an adaptive purpose: it functions to support man's survival. The attempt by psychology to generate a language for describing the behaviour of organisms may be viewed as an integral part of this process. One idea about how the acquisition of knowledge promotes human survival [...] incorporates a model of man that is cast in the terms science has generated to describe the universe man inhabits. [Brenner, 1980, p.87]

The fundamental thesis is then that the search for knowledge is a manifestation of the evolutionary tendency of life forms to manage energy resources in such a manner as to promote their survival. Implicit in the evolution of life forms is the development of information-processing capacities that permit optimal utilization of available energy resources. [ibid, p.94]

It hardly seems worth commenting on this example in any great detail: now the scientific enterprise is written into the evolutionary struggle for life itself which is directed at processing information in a way which uses energy efficiently. Not only psychology, but Nature is determined to circumscribe human activity as scientific.

... the higher cognitive processes are notably similar to processes of scientific discovery – indeed, ... the latter are the former writ large. Both, of course, are deeply mysterious; we don't understand non-demonstrative inference in either its macrocosmic or its microcosmic incarnation. [Fodor, 1985, p.4]

⁹"Man" is used here as a generic term for human beings. I would prefer not to use the word but do so because I am discussing quotations from a book entitled Models of Man.

Fodor states explicitly the similarity between scientific discovery and thinking in general. He evidently believes that both are of great value although it is not entirely clear how he could notice the link between them if both are so deeply mysterious and beyond understanding.

What perceptual systems typically "know about" is how to infer current distal layouts from current proximal stimulations: the visual system, for example, knows how to derive distal from proximal displacement, and the language system knows how to infer the speaker's communicative intentions from his phonetic productions. Neither mechanism, on the present account, knows a great deal else, and that is entirely typical of perceptual organisation. Perceptual systems have access to (implicit or explicit) theories of the mapping between distal causes and proximal effects. But that's all they have. [ibid, p.4]

This example is a little more dense: In order to perceive the world at all, we must already know how to construct it on the basis of the stimulation that it is currently providing – we must know the various laws of organisation of reality. In short, we must know science in order to perceive the world. For example, we must know the phonetic categories of linguistics in order to infer what a person intends by speaking to us. Here Fodor makes a similar assumption to Nelson (above) that understanding speech is a simple matter of analysing sounds. This assumption may be appropriate to the formal science of phonetics but it is doubtful whether it is universally appropriate. Whether or not this assumption is universal, it is written into Fodor's theoretical ideas about understanding and indicates science overwhelming general theory by requiring that all people must know its categories in order to perceive the world.

The perceptual system does not always agree with the rational thinking cortex. For the cortex educated by physics, the moon's distance is 390,000 km. (240,000 miles); to the visual brain it is a few hundred metres. Though here the intellectual cortical view is the correct one, the visual brain is never informed, and we continue to see the moon as though it lies almost within our grasp. [Gregory, 1977, p.224]

Gregory here makes the easy assumption that the areas of the brain which have not been associated with any particular activity (the so-called "uncommitted cortex") are concerned with rational thinking. Since Gregory wrote this, Brain Science has advanced considerably. It would be impossible to review the evidence here, but it is sufficient to note that the cortex is not the autonomous entity implied by Gregory and is implicated with many other neural structures. Moreover, it is not uncommitted and is associated with many kinds of activity other than rational thinking [Trevarthen, *In preparation*]. He adds that the thinking cortex has been educated by physics. A

somewhat precarious argument in itself, but to then claim that the educated cortex is correct but does not bother to tell the visual brain about its education is stretching things a little. Gregory is attempting to explain the "illusion" of the moon being close at hand. It is quite obvious – at least to me – that the moon is a long way off, and if Gregory has any belief to the contrary then that is his problem – a problem which hardly merits the bizarre *ad hoc* explanation he provides. This example not only demonstrates the exclusion of general theory by scientism, but also one of the peculiar confusions it fosters. Gregory's belief in the virtue of science leads his argument to maintain this evaluation at every turn. Gregory again:

It is not difficult to guess why the visual system has developed the ability to use non-visual information and to go beyond the immediate evidence of the senses. By building and testing hypotheses, action is directed not only to what is sensed but to what is likely to happen, and it is this that matters. The brain is in large part a probability computer; and our actions are based on predictions to future situations. Perhaps inevitably, we cannot predict with certainty what our, or other people's, predictions will be – what they will see or how they will behave. This is a price we have to pay; but intelligent behaviour is not possible without prediction. Predicting from hypotheses derived from meagre data is the hallmark of perception, intelligence and science. Science is shared perception. [ibid, pp.224-225]

Apart from the explicit mention that activity is related to sensation by the testing of hypotheses (just like science), Gregory makes some rather startling claims about intelligent behaviour, the brain, perception and science. The grammar of this example defies logical analysis,¹⁰ but it is fairly clear that Gregory is trying to link together science, perception, and intelligence with the testing of hypotheses, and the claim that the brain is a probability computer. Not only is this obviously scientific, Gregory is prepared never to be able to predict what another person is predicting which, when translated out of his language, amounts to never being able to know another person. Not only does this infirm his social life rather more than somewhat, it undermines his pretensions to be a psychologist. Lumping together science, intelligence and perception as examples of hypothesis testing in the vain hope that in spite of meagre data he might one day get it right is inadequate to support the bizarre notion that science is shared perception and, seems, at the very most, to consign him to solipsism.

The common theme of these examples is an implicit belief in the virtue of science and a more or less explicit attempt to convert this into psychological theorising. The fact of the matter seems plain enough: *some psychological theorists claim that human thought*

¹⁰and to be perfectly frank, it baffles me that anyone can actually get away with writing such nonsense.

