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Dickins, Thomas E., 2009. Psychology, biology and the market place.
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Psychology, biology and the market place:

Response to John Radford's "Psychology in its place"

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Introduction

Early in his paper, Radford discusses the origins of Western universities. He argues that they were designed to provide a "very practical preparation for life and particularly for the professions, specifically law, medicine and theology." Radford then mentions how a core part of such education was grammar, rhetoric and dialectic.

Radford's purpose is to emphasize the practical nature of university education from the start and to imply that this should be its aim now. Throughout much of the paper he discusses the putative benefits of psychology and in so doing he is commenting on the nature of the modern world and its demands.

In passing, Radford mentions Flynn's (2007) recent speculation that increases in intelligence might be due to the "spread of 'scientific' thinking" in modern culture, and he wonders whether psychology might have played a role. The increases in IQ that Flynn notes are a consequence of rises in performance in specific tests, such as Raven's and the Weschler tests; more generally, those tests that pursue abstract abilities. It is the capacity to think abstractly that modern science and technology selects, such that the modern world causes us to flex those 'muscles' more frequently. People therefore hone those skills by default.

Flynn also has views about Western universities and these become the focus of the latter chapters of this most recent book. He is concerned with the rise of post-modern thinking, which deliberately eschews scientific process and makes

an art form of closed language games and obscurantism. This order of self-indulgence is all well and good if carried on between consenting adults, but it ill-prepares students for the world they confront when leaving university: a world of markets, statistically expressed relationships, biomedical technology, genes and a rapidly changing ecosystem. Postmodernism is deleterious and will act to counter IQ gains. Flynn's solution to this is to introduce into the curriculum of all university degrees a course in abstract thinking. He argues that there are a number of core short-hand abstractions (his own term) that are essential for understanding the modern world. He lists a number of them in his book and they include understanding the concepts of market, percentage, natural selection and a control group. Ideally, a well-educated student will be able to write a paragraph on all of these abstract ideas. This sounds very similar to the ancient requirement to study dialectic.

Frameworks for Psychology

Flynn's view is not so far from Radford's. Both want students to be suited to the world they encounter upon graduating. However, where Flynn is motivated by a particular view of what psychology is, and how the world works, Radford is not, it seems. Indeed, Radford espouses a strange relativism about the subject, arguing that we ought to take seriously the 'psychologies' of other cultures and embrace allied disciplines. This is all part of his liberal science agenda, first put forward with David Rose, in which they advocated the scientific process but sought to combine this with "the humanity of other ways of seeing our behaviour." At no point does Radford give us any suggestions about how best to judge this endeavour. I assume there are some criteria for selection and combination, and that they will be based upon a particular theoretical perspective of how the world works, but Radford chooses not to mention them in this paper. Flynn would part company with him at this point, preferring to pursue a stated theoretical line in a Popperian manner, as he advocates in his book.

Liberal sentiments are perfectly defensible. There is nothing wrong with respecting different views, with wishing to create a more equitable world and hoping to help people. However, it is a simple point of logic that not all views will be correct, veridical representations of how the world actually is; indeed, most of them will be false. Popper understood this and wrote extensively on the benefits of applying his falsificationism to the project of generating an open society. Only

by critically pursuing and attempting to falsify theory will we come to have any pragmatic grasp on the world. What is more, falsificationism is the only way of introducing logical inference to our understanding of the world. Flynn shares with Radford similar liberal sentiments. Flynn is in fact a moral philosopher and has been an active left-wing politician in New Zealand. But his view is that only by understanding the world will we be able to make things better for people.

Flynn has mentioned (personal communication) that he does not like the concept of a human nature. Many social scientists avoid such a notion, in part for fear of possible essentialism, which is a much maligned position within philosophical circles. Claims to core causes are unpopular and explanatorily inadequate, it seems (see Dennett, 1995). Yet it is perfectly possible to have a theory of human nature that avoids essentialist claims by embedding accounts of humans within a broader theory of nature. Human nature, then, would become something both recognizably similar to that of other organisms at the same time as distinguishable from them. Fortunately, we are in the possession of such a framework: that of evolutionary theory.

Evolutionary theory is a theory of design. Organisms possess heritable traits that enable them to solve problems of survival and reproduction. These traits vary in their expression within the population such that some individuals better solve problems than others. As a consequence some individual's chances of survival and reproduction are better than those of others. Gradually those traits, because of their heritability, come to dominate within the population after a number of generations.

With the onset of genetics this theory has become more precise. Genes can be understood as simply trying to replicate themselves in perpetuity. Any trait they build that will make this more likely will come to dominate, similarly any variant on that trait that better solves the problem will reach saturation within a population. In this way, traits can be regarded as adaptations if they cause their underlying genes to increase in relative frequency within the gene pool.

Mutation introduces new variation and new traits to organism design. For the most part mutation has no effect. If they do have an effect it is usually deleterious and selected against. However, occasionally the mutation proves useful in solving problems.

Evolution, then, is a blind process best conceived of as an economic consequence of the interaction of traits with the environment. The adaptations possessed by a species are a mark of its ecological niche and its economic history within that niche. As Cronin (2005) has noted, the best theories we have of an environment are the organisms we find within it.

Niko Tinbergen's canonical framework is often neglected in mainstream psychology, even though he shared a Nobel Prize with Konrad Lorenz who is nearly always mentioned in courses on attachment¹. Tinbergen saw that there is a distinction to be drawn between ultimate and proximate explanations. The former are evolutionary accounts of the function of a trait and the latter accounts of how the trait actually works. He further refined this, arguing that for a complete explanation of any behaviour scientists must answer four questions: what is the function of the behaviour; how does the behaviour develop; what is its evolutionary ancestry; and, what mechanisms produce it?

Tinbergen could not have been clearer, yet the introduction of evolutionary ideas to the psychology curriculum has been conducted with little recognition of his work. In recent years, evolutionary psychology has taken off, with many vigorous scientists pursuing questions within this discipline. Evolutionary psychology is one approach to the broader project of human evolutionary behavioural science (see Sear, Lawson & Dickins, 2007) and is now seen in a number of degree courses as an option, usually in the final year. In the recent past I have argued for evolutionary theory to be placed at the heart of the curriculum, forming the foundational training for all undergraduates (Dickins, 2007a, b). It is natural selection that bequeathed our

behavioural traits and the proximate psychological mechanisms that cause them. Adaptationist approaches allow us to accurately individuate such traits, understand their function and narrow our focus to produce explanations at the proximate level. The tools of evolutionary game theory enable us to realise the parameters of human strategic behaviour in social settings, comparative methods help us to recognize similarities and differences between humans and other species based on strict theories of common ancestry. In general, my view has met with indifference, and this has perplexed me.

¹ On attachment, John Bowlby also took an evolutionary view. Indeed, he coined the phrase 'environment of evolutionary adaptedness', which is much used by evolutionary psychologists, in order to capture the idea that behaviours had a selection history and ideal environment of expression.

Recently, Daniel Nettle spoke at the *Biology and Evolution in the Social Science Curriculum* workshop, held in Cambridge (25 April 2008). He argued that most psychologists, academics and undergraduates alike, see evolutionary psychology as equivalent to social psychology, cognitive psychology, personality and individual differences, and so on. In other words, it is perceived as simply another approach for generating proximate explanations. But, as Nettle pointed out, this is false. As a theory of design, evolutionary theory has an overarching and integrative role to play across all approaches to proximate explanation. Thus, accounts of cognition need not abandon theoretical commitments to certain kinds of computational explanation, but by thinking in adaptationist terms they can more accurately individuate cognitive processes. Social psychology can discuss theories of aggression but it will better capture this behaviour by integrating evolutionary game theoretic analyses of the possible strategic moves that can reach equilibrium within a population. Nettle (2006) himself has recently shown how the big five personality traits can be usefully understood as fulfilling strategic niches once a frequency dependent selection model has been added to accounts of their prevalence within populations and across time.

Such claims for evolutionary theory are often met with counter claims that evolutionists are imperialist in their ambition (see Dupré, 2001); that they wish to sweep in and take over the work of others. Leaving to one side the rhetorical nature of such 'defences', it is worth noting two things. First, evolutionary theory as it stands now is an entirely falsifiable theory, and therefore properly scientific. As yet it remains unfalsified. But, second, were it to be falsified there would be a requirement for a new theory of design, for the phenomena will not have disappeared. Any new theory of design will, of course, play exactly the same role in accounting for the presence and character of traits and their proximate mechanisms. It is not so much imperialism as an explanatory necessity. Any attempt to claim that it is not will ring hollow.

I do not share Radford's anthropocentric vision of psychology – for me it is about all behaving creatures – but even if we were to decide only to study humans we surely must recognize that their behaviour is the product of a brain, that humans are simply organisms and, as such, anything we say must make sense in light of biology. Given this I advocate organising psychology along Tinbergen's lines, which have emerged from the production of knowledge in the behavioural sciences and from a recognition of the explanatory requirements. A student equipped with such a framework, and with three years or more experience of

using it, will be in a good position to affect change in the world. One without a full understanding of behaviour will not be so fortunate.

On the British Psychological Society and Professionalism

My advocacy of Tinbergen comes from scientific judgement: not just my own, but that of many peers spread across time. In effect, market forces have tested Tinbergen's framework and the market has decided that it has value. Of course, my argument is that this market has not fully included psychologists who make curriculum decisions and I am making a claim that psychologists should pay attention to those in the human evolutionary behavioural sciences. It is to this notion of a market that I now turn.

Radford gives us reason to doubt the efficacy of the Graduate Basis for Registration (GBR) requirements of the British Psychological Society (BPS). GBR is supposed to prepare the student for further professional training, and Radford cites and makes arguments that suggest it is more likely that the professional training itself is the key preparation for work as a psychologist than anything that might go on at undergraduate level. This is in part to do with the time elapsed between first degree and training, and in part a consequence of having expectations and obligations realigned during training.

There is another reason to be sceptical about GBR, and more specifically the BPS's role in governing the undergraduate curriculum: the decisions about content are reached by committee, which makes it an inherently political activity. Committees may seek some order of democracy in their constitution, but they are swayed by the best rhetoric and, as they are not truly representative of the 'people', they are self-interested. This is what professionalism means: giving yourself over to a group of people who will decide what the discipline is about and for. It is done to maintain standards of practice, to protect members, and to increase public standing; all of which is entirely inappropriate for academic practice.

Academic psychology must be allowed to pursue scientific methods, develop new theories and falsify old, change frameworks and follow particular interests as the market of ideas dictates. It is the collective activities of scientists that contribute to market fluctuations, their individual intuitions and intellectual effort, and this

happens on a day-to-day basis. Attempting to constrain such a free-market does damage to intellectual progress.

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