
A Much Needed Macro Level View: A Commentary on Henriques' "Psychology Defined"

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To develop greater coherence, psychology must develop its macro and integrative approaches to the mind. In this illuminating paper, Henriques (this issue, pp. 1207–1221) outlines the kind of thinking that is needed. He skillfully illuminates the levels of emergence of mind from the material world and argues that the recursive self-regulative abilities of self-awareness set us apart from other animals. The interaction between an evolved mind, adapted to pursue strategic goals, while also being phenotypically shaped by both environment and our recently evolved cognitive competencies, is a core focus of psychology. © 2004 Wiley Periodicals, Inc. *J Clin Psychol* 60: 1223–1226, 2004.

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In his fascinating paper "Psychology Defined," Henriques (this issue, pp. 1207–1221) draws attention to the conceptual difficulties within the discipline of psychology and proposes a number of solutions. The difficulties relate partly to the way "psychological phenomena" are defined, overlap, and flow into "other disciplines," and bridge the biological and social sciences (Cacioppo, 2002). Although psychology has a particularly broad span of interactions with other disciplines, psychologists are not unique in being concerned about its core. In the early 1970s I completed my first degree in economics. This discipline's community too wondered if it was a real science and quibbled over its boundaries. However, economists understood one thing that psychologists have not (at least until recently)—they must have a micro and *macro approach*. For economists it is not sufficient to only focus on micro processes of money markets, labor markets, or resource availability unless one can also build models of how all these work together at various levels of complexity and emergence of self-regulation and de-regulation. Any attempt at economic planning and regulation must understand economic *systems*. When I

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retrained as a psychologist, I was somewhat shocked to discover there was no equivalent in psychology—no *macro approach*. I attended numerous courses on language, animal learning, memory, emotions, and so forth but all as isolated islands of knowledge. One of my tutors was even proud of the fact, and thought the mind far too complex to attempt any integrated approach! Okay, that was 1973—but we still teach psychology as a fragmented science and should not be surprised that it stays one.

This fragmentation ripples through clinical psychology and has allowed a huge and damaging tribalism to emerge in the psychotherapies. Psychology (until recently) lacks the nerve and confidence to rein in all the various schools that peddle cognitive, behavior, psychodynamic, and other “flavors” by insisting that all therapies must be rooted in psychological science, and be evidence based. In my view, all psychotherapies should (and I suspect one day will) become housed in the psychological sciences, as *psychological interventions* able to assess and address different aspects of people’s processing abilities (both conscious and nonconscious) and needs. But first, there is much work to do on developing a macro level approach. And it is here that I see the most value in Henriques’ contribution.

The approach I personally favor is the biopsychosocial approach (Gilbert, 1989, 1995), although even the term suggests a problem. Those who advocate this approach also lament the lack of attention to macro processes and holistic approaches (Gilbert, 1995; Kiesler, 1999). However, the need for this approach is ever more pressing as we are discovering how (for example) genes can set people up for certain vulnerabilities as their environments in which they mature and live shape their phenotypes. Different phenotypes may require different, and personally tailored, types of intervention, either via drugs and/or psychosocial interventions (Gilbert, 2002a, 2002b; Plomin & Crabbe, 2000). Just because someone has the same “so-called” disorder (e.g., depression) does not mean it arises via one route (Akiskal & McKinney, 1975) or will necessarily respond well to a specific intervention. We also know that certain social and ecological environments hone phenotypes of anxiety, depression, and aggression and that prevention of psychopathologies must address issues of poverty, social values, and economic relationships. To bridge these processes we need more than a micro science of social relationships, emotions, personality, or neuroscience, beloved by journals and grant-awarding bodies with their selective focus, and strive for a science of mind that includes *macro* level realities. There are many laudable and increasingly powerful efforts in this regard (Cacioppo, 2002; Cacioppo et al., 2000).

It is with these thoughts in mind that I read Henriques’ “Psychology Defined.” The concept of a Tree of Knowledge is not, in fact, new (e.g., Maturana & Varela, 1987). Henriques proposes a clear view about the emergence of psychological phenomena. This is represented in the Tree of Knowledge that moves from the “coming into existence” of the material universe, the establishment of physical laws, the emergence of planetary and ecosystems, evolution of life processes (from simple to complex organisms), and the evolution of the internal regulating systems of animals. There are multiple levels of self-organization and regulation, some of which act in nonlinear ways. As he points out, psychology is partly the study of the self-organization of organisms and in that sense is routed in the study of animal behavior. The key processes of learning relate to feedback and adaptation to feedback. For the most part, animals are dependent on interactions with, and feedback from, their environments that regulate various phenotypic potentials within them. Clearly, animals cannot learn nor adjust to environments that extend beyond their phenotypic abilities.

Humans are unique in many ways, however. This uniqueness can be conceptualized in the way in which neuronal networking occurs in the brain. Recent evolutionary changes

in the human line may have given rise to genetic variation that facilitates new options for complex neuro-connectivity (Geary & Huffman, 2002). Humans are unique also in the way in which cortical processes have evolved, and in particular, of course, the frontal cortex, which has come to regulate many of the motivations, emotions, and strategies coded lower in the brain. Humans are also unique in their ability to secrete and create cultural systems that operate within their own phenotypic ranges but also co-regulate the internal workings of the brain. For example, parenting patterns can vary from social niche to social niche and these patterns will have an impact on brain development (Schoore, 1994). As Caporel (1997) observes, it is not just genes that must replicate but (social) environments must too, and in this sense humans must replicate specific relating styles (e.g., attachment), communications via language with syntax, and socially guiding value systems, for these are the basic inputs needed by which humans actualize their phenotypic potentials.

One of the key themes of Henriques' analysis is that the human brain actually has two psychologies wrapped up in one. One he links to cross-species animal psychology, the other to a more specifically human domain. He makes this clear when he suggests that "the human mental architecture should be thought of as consisting of two broad domains: (a) a nonverbal perceptual-motivational-affective, parallel-information processing, behavioral guidance system; and (2) a verbal, logical-analytical, sequential information processing, justification system" (this issue, p. 1217). This of course is key to many models of psychology now, including basic neuroscience and studies of the link between emotional processing and higher level cognitive processing (Haidt, 2001). The way evolved strategic urgencies (to avoid threat and harms) and strategic pursuits (to seek out food, friendships, and sexual partners) that have been so central to evolution, and the emergence of variation in life forms, and (in humans) are now coordinated via instructions (both conscious and nonconscious) in lower brain systems is the focus of both evolutionary psychology and neuroscience (Panksepp, 1998). Evolutionary psychology, with its focus on modularization of the brain is, however, only one way to address these domains (Smith, 2000). It is the linkage between strategic concerns and our cognitive analytic systems that is tricky (Chiappe, 2000). Social experience affects both, and their interaction.

We do not help matters, when exploring these multilevel and organizing processes, with difficulties in defining our terms. For example, cognitive therapists have generated a set of important models for how emotion and motivations can be regulated through cognitive analytic systems, including meta-cognitive systems. However, there is often a sleight of hand in their theorizing in the way in which they use the terms "information processing" and "cognitive processing" as interchangeable. Clearly DNA, the amygdala, and even one's computer can be thought of as an information processing system, but one cannot say they have cognition. Biological systems such as the amygdala through its linkage to the frontal cortex can secrete cognitions, and the way in which these become patterned and choreographed can feedback on to affect regulating systems. We cannot rehearse these arguments about emotion versus cognitive-based processing (see Haidt, 2001), but clearly cognition must imply something other than information processing and meaning making—even the humble fruit fly is an information processing and meaning-making organism that allows it to go about it's business of survival and reproduction. Should we then reserve "cognition" for our symbolic forms of reasoning; the type (2) processes noted by Henriques? It is the choreography of phenotypic potentials inside the brain that is, to my mind, one of, if not *the* key domains of psychology. How we label and study these processes is still a matter of debate, but it is clear that such choreographies require a macro as well as a micro scientific focus.

One may take issue with some of the specifics of Henriques' approach, such as the justification hypothesis for the evolution of self-awareness, but these are side issues. The importance of Henriques' approach is that this kind of thinking should not be reserved for some specialized or graduate course but should be center stage to our thinking, model building, and teaching of psychology. To "be" a psychologist in the new era is to study the patterns of emergence of mind forming systems and their social creations and regulators. Psychology is gradually coming to grips with a need for a macro science of mind. Henriques has done a fine job in carrying this torch forward.

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