
Social by Design: How Social Psychology Can Be More Cognitive Without Being Less Social

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Despite popular misconceptions that evolutionary psychology is simply the study of mating, murder, and perhaps morality, the field is not defined by its topics of investigation, but by its approach to psychological research. In their landmark book, *The Adapted Mind*, Cosmides et al. (1992, p. 3) define evolutionary psychology as “simply psychology that is informed by the additional knowledge that evolutionary biology has to offer, in the expectation that understanding the process that designed the human mind will advance the discovery of its architecture.” What this definition omits, but Tooby and Cosmides (1992) would subsequently argue, is an emphasis on natural design. What I aim to clarify in this chapter is how this emphasis on design strongly allies evolutionary psychology with cognitive psychology and how, following evolutionary psychology’s lead, social psychology might become more deeply integrated with the cognitive sciences.

The Physical, Intentional, and Design Stances

The philosopher Daniel Dennett (1978) has proposed that there are three basic strategies that one might adopt to try to explain and predict the

behavior of complex systems, such as those found in humans. The simplest in principle, though the most unwieldy in practice, is the physical stance. “From this stance our predictions are based on the actual physical state of the particular object, and are worked out by applying whatever knowledge we have of the laws of nature” (Dennett 1978, p. 4). Arguably this was the approach taken previously by the behaviorists. I, however, intend to focus instead on Dennett’s two other explanatory strategies: the intentional stance and the design stance.

In applying the intentional stance to humans, one assumes that a person will rationally act to satisfy their desires given what they believe and the constraints under which they must act. In the wider philosophical and psychological literatures, this explanatory strategy is widely referred to as “folk psychology” or “theory of mind.” Empirical investigations of folk psychology have been particularly prominent in the comparative, developmental, and neuroscientific literatures, especially after the discovery that persons with autism appear to be specifically impaired in their ability to make folk psychological predictions (Baron-Cohen et al. 1985). What these psychological investigations of folk psychology suggest is that it is an innate explanatory framework possessed and intuitively used by all neurologically normal human adults—hence the term, *folk psychology*. I will argue that folk psychology, or the intentional stance, remains the default theory of the mind for much of social psychology, and

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in this it contrasts with much of cognitive psychology and a prominent strand of evolutionary psychology. Hence, to appreciate how these evolutionary psychologists approach cognition, it is important to consider not only the influence of evolutionary biology but also the fundamental differences in the ways in which social psychologists, on the one hand, and cognitive and evolutionary psychologists, on the other, approach psychological explanation.

The explanatory stance explicitly adopted by evolutionary psychologists and at least implicitly adopted by cognitive psychologists is the design stance. “Different varieties of design-stance predictions can be discerned, but all of them are alike in relying on the notion of *function*, which is purpose-relative or teleological. That is, a design of a system breaks it up into larger or smaller functional parts, and design-stance predictions are generated by assuming that each functional part will function properly” (Dennett 1978, p. 4, emphasis in original). Some cognitive psychologists might object that they do not assume that the human mind is designed, that this would constitute unwarranted teleological speculation that runs contrary to blind evolutionary processes. Yet, this is precisely the assumption made by evolutionary psychologists, that the mind bears evidence of evolved natural design. In treating the mind as designed, evolutionary psychologists are not adopting some heterodox approach to evolutionary theorizing. On the contrary, the search for special design is a widely accepted methodological approach to the study of adaptation (Dawkins 1986; Williams 1966). The hesitation to impute design to nature is simply an anachronistic concern that one thereby subscribes to the view that the designer is an intelligent agent (e.g., God). Evolutionary biologists see no contradiction in proposing that the blind, materialistic forces driving natural selection can result in natural design. If one is troubled by the conceptual baggage riding with the term *teleology*, one can substitute, as many evolutionary biologists have, the term *teleonomy* instead (Mayr 1974; Pittendrigh 1958). Both terms refer to end-directedness, but the latter explicitly carries no assumption that the cause of such end-directedness is an intelligent agent.

Put another way, Cummins (1975) has argued that the design stance (which he calls functional analysis) has traditionally involved two assumptions: (A) The point of the design stance is to explain the origins of a functionally characterized item, and (B) “For something to perform its function is for it to have certain effects on a containing system, which effects contribute to the performance of some activity of, or the maintenance of some condition in, that containing system” (p. 741). Cummins’ purpose in making this distinction was to argue that, though B might be a valid explanatory framework, it does not justify A, and so Cummins argued for keeping B and jettisoning A. Most cognitive psychologists adopt B as an explanatory framework. For example, in their influential account of human memory, (Atkinson and Shiffrin 1968; Shiffrin & Atkinson, 1969) divided human memory into a collection of functional parts: sensory register, short-term store, long-term store, control processes, and response generator, and a glance at any recent cognitive psychology textbook will reveal the same approach to the human mind, more generally. The mind is divided into a collection of functional parts: perception, attention, memory, imagery, language, problem solving, reasoning, etc.—functionally, if not neurologically, differentiated components that work as part of a system. Where cognitive psychology differs from evolutionary psychology is in its reservations about assumption A. Cognitive psychology is largely uncommitted to any specific theory about the origins of mental faculties and talk of design seems to presuppose a theory about their origins. Evolutionary psychology, on the other hand, has no such qualms about accepting assumption A—functional explanations play an important role in accounting for the origins of the traits in question. Despite their differences, it is cognitive psychology’s and evolutionary psychology’s commitment to assumption B, regardless of whether they also subscribe to A, that justifies labeling their approach to psychological explanation the design stance.

While it might seem that folk psychology treats beliefs and desires as distinct mental faculties, viewing these as such would be mistaken.

Beliefs and desires are not powers of the mind; they are mental representations—the contents of the folk psychological mind—just as concepts, propositions, spatial representations, and so on are the purported contents of the various mental faculties. The closest equivalent to a mental faculty in folk psychology is rationality. It is by virtue of the rational organization of the mind that beliefs and desires can be invoked in the derivation of a behavioral prediction. What I will argue is that social psychologists have, to a large extent, treated the mind as a black box—not because they are behaviorists, but because they have largely adopted the intentional stance as their primary mode of psychological explanation. While this has not impeded the development of social psychology, it has forestalled a meaningful engagement with the cognitive sciences on social psychology’s own terms. In arguing this, my aim is not to pass judgment, but to provide advice gleaned from the transition of human evolutionary research from sociobiology, which similarly employed the intentional stance, to evolutionary psychology, which has embraced the design stance.

How Is Social Psychology Folk Psychological?

In arguing that social psychology is folk psychological, I do not mean that it is thoroughly so, or that cognitive psychology, by contrast, is completely free of folk psychological speculation. Dennett (1987), for example, has suggested that cognitive psychologists continue to use the intentional stance as a competence theory (i.e., a benchmark by which the cognitive faculties they postulate are judged). Hence, when speaking more broadly, beyond the usual narrow focus on a particular mental faculty, or when engaging non-psychologists like philosophers or the lay public, cognitive psychologists often adopt the intentional stance. Steven Pinker, who is both a cognitive psychologist and an advocate for evolutionary psychology, rarely, if ever, invokes folk psychological concepts in his technical works. Yet, in his best-selling popular work,

How the Mind Works, he explicitly defends folk psychology as “the most useful and complete science of behavior there is” (Pinker 1997, p. 63). Conversely, within social psychology, social cognition in particular is influenced by cognitive psychology and, thereby, less folk psychological. Therefore, when I claim that social psychology is folk psychological, whereas cognitive and evolutionary psychology are not, this should be read more as a difference in relative focus.

Caveats aside, the differences between social psychology and cognitive psychology are striking at times. For example, Gordon Allport (1935) once claimed that attitudes are the “most distinctive and most indispensable concept in contemporary social psychology”—a quote that is still cited approvingly in social psychology textbooks and a sentiment that is echoed in the technical writings of contemporary social psychologists. Fazio and Olson (2003) write:

It is difficult to imagine a psychological world without attitudes. One would go about daily life without the ability to think in terms of “good” and “bad,” “desirable” and “undesirable,” or “approach” and “avoid.” There would be no activation of positivity or approach tendencies upon approaching objects that would engender positive outcomes, but, perhaps more seriously, there would be no mental faculty for avoiding negative objects in one’s environment. Our environment would make little sense to us; the world would be a cacophony of meaningless blessings and curses.

Apparently, though, it is not all that difficult to imagine a psychological world without attitudes, because cognitive psychology progresses perfectly well without ever invoking the construct. Turn to any cognitive psychology textbook and one would be hard-pressed to find any mention of attitudes. The reason cannot be that attitudes are inherently social (and, therefore, left to social psychologists to study) because it is not clear what is social about an attitude like “I like chocolate.” True, people could hold attitudes for value-expressive or social-adjustive reasons, but Fazio and Olson’s object-appraisal approach to attitudes would appear to touch on themes dear to cognitive psychologists, like how people understand their world. Yet, cognitive

psychologists have found little use for the attitude construct.

Conversely, all of those cognitive psychology textbooks that do not even mention the word “attitude” will typically include a whole chapter on language. As our species’ primary means of communication, language is inherently social. Yet, one finds little discussion of language in the typical social psychology textbook. Why is that? Why is it that social psychologists are fascinated with attitudes—even attitudes of no obvious social import like one’s attitude towards chocolate—and yet they seem uninterested in language, one of our species’ most remarkable social faculties? The answer, I would argue, is precisely that language is a mental faculty and not readily explained in terms of the intentional stance. If one wants to explain why, for example, “no mere mortal has ever flown out to center field”—why instead we say that they “flew out” (Kim et al. 1991), it will be more useful to consider the functional organization of the language faculty rather than explanations couched in terms of a person’s beliefs and desires, if for no other reason than the fact that much of linguistic processing appears to be fast, automatic, and unconscious—i.e., not the sort of thing that we likely have beliefs about. Indeed, Pinker (1994), who would later vigorously defend folk psychology, devoted a whole book to the design of the language faculty without saying much about the role that beliefs play in its functioning.

Attitudes, despite Fazio and Olson’s assertion, are not a mental faculty. Attitudes, defined as one’s evaluation of a target along a good–bad dimension, play roughly the same role in social psychology that desires do in folk psychology. People desire that for which they have a positive attitude and do not desire that for which they have a negative attitude. Like desires, attitudes are not mental faculties—powers of the mind—but the contents of the mind. Attitudes might appear to have the power to prompt action, but they are behaviorally inert without the rational apparatus of folk psychology. Even if one knows that someone likes chocolate, one would be at a loss to make any behavioral predictions about the person unless one also assumed that the person is ra-

tional and will rationally pursue their desires, because without the presumption of rationality, one could just as easily predict that someone desiring chocolate would go swimming as one would predict that the person would buy chocolate.

Although seldom discussed in the psychological literature, the role that the assumption of rationality plays in the ascription of belief and desire is a common theme in the philosophical literature (e.g., Dennett 1987; Stich 1983). Moreover, it is a particular form of rationality that a person is assumed to exhibit. It is the internal consistency of one’s beliefs and desires that is most important and not, say, their correspondence with reality. Consider, for example, the intensively studied Sally–Anne false-belief task (Baron-Cohen et al. 1985). Sally places a marble in a basket and then leaves. While she is gone, Anne moves the marble from the basket to a box. The question posed to participants is: Where will Sally look for the marble when she returns? The answer is straightforward, Sally will act in a way that is consistent with her belief that the marble is in the basket, and not in a way that is consistent with reality, that the marble is in the box. It is precisely because persons with autism fail to predict that Sally will act in a way that is consistent with her beliefs that they are suggested to have problems with folk psychology (Baron-Cohen et al. 1985).

The same principle of internal consistency is invoked when we try to determine our own beliefs. Asked, for example, whether one believes there are more pink flamingos on the Earth or on the moon, most people will assert that there are more pink flamingos on Earth. As Sperber (1996, p. 86) notes, it is highly unlikely that this is explained by the fact that one had previously represented this belief in one’s head such that one could just consult one’s memory to find the belief: *There are more pink flamingos on Earth than on the moon*. Instead, in this case, we determine what we believe inferentially, based on what would be rationally consistent with other mental representations that are explicitly represented in memory.

The point of this digression into the assumption of internal consistency is that, compared with

cognitive psychologists, social psychologists have a strong interest in internal consistency. Festinger's (1957) cognitive dissonance theory and Heider's (1958) balance theory, for example, both stress the consistency of belief, desire (attitudes), and behavior. By contrast, cognitive consistency is not a topic that is frequently discussed by cognitive psychologists, with the notable exception of the reasoning and decision-making literatures. Of course, it is not surprising that the topic of cognitive consistency should arise in the reasoning and decision-making literatures given that performance in these domains should conform to norms stressing internal consistency, such as the rules of logic. However, these norms were originally advocated by philosophers and economists and not psychologists. The more common position held by cognitive psychologists is that people do not, in fact, exhibit cognitive consistency (Kahneman et al. 1982).

Finally, outside of the laboratory, the primary use of folk psychology is to predict and explain *individual* behavior, not the behavior of people in general. In other words, the function of folk psychology is to predict how, or to explain why, a particular person, situated as they are, acts as they do and not how it is possible for people, in general, to act. Design stance explanations generally do just the opposite. They are more focused on how a complex mechanism functions, in general, as opposed to how the system will act in any specific situation. Here, too, the differences between social psychology and cognitive psychology are striking. A major focus of social psychology is individual differences that are typically assessed by a myriad of scales measuring the individual's beliefs or attitudes. In cognitive psychology, there is far less interest in individual differences outside of the intelligence and expertise literatures. However, these are possibly exceptions that prove the rule, as in neither literature is there a strong tendency to postulate corresponding mental faculties as opposed to invoking mental faculties, such as working memory, that have been proposed on other grounds. Even individual difference constructs, like need for cognition (Cacioppo and Petty 1982), that would presumably be of some relevance to cognitive psychol-

ogy are rarely considered in cognitive research. Compared with social psychologists, cognitive psychologists are much less interested in individual differences.

To summarize, social psychology is folk psychological in that it routinely employs the concepts of belief and desire/attitude; it routinely stresses the internal consistency of a person's beliefs, desires/attitudes, and actions; and individual differences play an important role in social psychological research. In all three respects, cognitive psychology is quite different. The reason it is different is that cognitive psychology is focused instead on elucidating the functions of mental faculties that are presumed to be universal. In practice, this seldom draws upon the explanatory constructs of beliefs, desires, or attitudes, and the basic design of mental faculties is not presumed, a priori, to be internally consistent, though perhaps the ultimate goal of cognitive psychology is to describe a system that in its global functioning approximates folk psychology (i.e., adopting folk psychology as a competence theory; Dennett 1978).

Why Might Social Psychologists Want to Adopt the Design Stance?

Even if one accepts the argument that social psychologists tend to adopt the intentional stance, while cognitive psychologists tend to adopt the design stance, this, in itself, provides no reason for social psychologists to likewise adopt the design stance.

Moreover, by adopting the design stance, the possibility arises that that which most interests social psychologists—the social—will be lost. Would not the adoption of the design stance ultimately reduce social psychology to asocial, cognitive psychology? If this is what social psychologists have to look forward to in adopting the design stance, perhaps they might choose, instead, to continue the same basic program of research that they are engaged in now, investigating “how the thoughts, feelings, and behaviors of individuals are influenced by the actual, imagined, or implied presence of other human beings”

(Allport 1954, p. 5). In other words, studying the social might require social psychologists to treat the mind somewhat as a black box, the details of which are left to cognitive psychologists to study, for to study mental faculties properly would mean setting aside the social, to investigate mental processes independent of the information they process. The error in this line of reasoning is that it privileges a particular conception of faculty psychology, which, though the most common conception, is not the only one possible.

There are, in fact, two different schools of thought with respect to mental faculties. Fodor (1983) has labeled these horizontal faculty psychology and vertical faculty psychology, or, as these are more commonly known, mainstream cognitive psychology and mental modularity, respectively. According to Fodor, horizontal faculties are distinguished on the basis of their typical effects, whereas vertical faculties are distinguished on the basis of their domain of application. For example, the horizontal faculties of short-term and long-term memory are distinguished by the duration over which they hold information, their storage capacity, etc. They are not distinguished by the content domain of the information that they store—any information that can be stored in short-term memory can also be stored in long-term memory, what distinguishes these memory stores is how long information is held within each, etc.

Vertical faculties, on the other hand, are distinguished less by the effects they have on information, such as whether the information is stored (e.g., memory) versus highlighted (e.g., attention), but by the content of the information that they process. For example, Kanwisher et al. (1997) have shown that a region of the fusiform gyrus, the fusiform face area (FFA), is preferentially activated by visual displays of faces as opposed to other comparable visual displays, such as displays of houses or other common objects. Based on these findings, Kanwisher et al. proposed that the FFA is a face *perception* module. Subsequent research has implicated the same brain region in explicit working memory for faces (Druzgal and D'Esposito 2003), implicit memory for faces (Henson et al. 2000),

and the mental imagery of faces (O'Craven and Kanwisher 2000). In other words, what predicts activation of the FFA is not the type of processing effect—e.g., perception versus memory versus imagery—but the content of the information processed, faces versus other objects. The FFA is, therefore, a content-specialized vertical faculty, not a content-independent horizontal faculty.

I do not intend to provide a general argument in favor of vertical faculty psychology over horizontal faculty psychology. Instead, I will argue for the particular advantages of adopting the former as opposed to the latter in further integrating social psychology and cognitive psychology, without social psychology thereby surrendering the social.

Suppose, for example, that social psychologists choose horizontal faculty psychology as their guiding model of mental structure. There would then be little that social psychologists qua social psychologists could contribute to the study of mental faculties. Social information is no different from any other information from the perspective of horizontal faculty psychology, as mental processes are, by hypothesis, domain general in their application. Social psychology would remain in the position it finds itself in now, investigating the influence of social information on mental faculties, with nothing to say about the design and function of those mental faculties. The discovery of the mind's structure would remain the privileged task of cognitive psychologists.

Suppose, on the other hand, that social psychologists adopted vertical faculty psychology as their guiding model of the mind. The most straightforward implication would be that social psychologists would go about the business of proposing and studying *social* faculties. In other words, social psychologists could, indeed, adopt the design stance and investigate mental faculties without giving up the social. Is this a viable prospect? Not only is it viable, but it has been done and it has been enormously successful. However, it has not been done by “social psychologists.”

In proposing that language is a domain-specific mental faculty, a linguist, Chomsky (1965), had an enormous influence on cognitive psychology. According to Jackendoff (2002), “This

hypothesis [specifically the proposal that there is a language module] is what connects linguistic theory most closely to biology, cognitive development, ethology, and evolutionary psychology. It also has been the main driving force in research on language typology, language acquisition, and linguistic change, not to mention day-to-day research on the structure of language” (p. 68). Yet, despite the inherently social nature of language, social psychologists have played a relatively minor role in the scientific study of language. One cannot dismiss the above observations by arguing that it is trivially obvious that a linguist would have more of an influence on the psychology of language than a social psychologist would. Chomsky (1957) had already revolutionized linguistics with the publication of his *Syntactic Structures* before he truly engaged psychologists by proposing a language-specific mental module in *Aspects of the Theory of Syntax* (Chomsky 1965). This suggests that it was not simply his influence within linguistics that made his proposals influential on cognitive psychology. Moreover, it was cognitive psychologists who subsequently investigated Chomsky’s proposal, not social psychologists. Arguably, the reason why social psychologists have contributed little to subsequent research is that Chomsky’s proposal was cast in terms of a mental faculty and social psychologists tend not to be faculty psychologists.

By the same reasoning, social psychology is not likely to have much influence on cognitive psychology until its proposals are framed in terms of (social) mental faculties. Consider, for example, the fate of attribution theory. The theories of attribution developed by Heider (1958), Kelley (1973), and Weiner (1985) have been enormously influential within social psychology, but their influence outside of social psychology has been much more limited. There is now a burgeoning literature on folk psychology within the cognitive developmental, cognitive neuroscience, primatology, and autism literatures, yet these three social psychologists are rarely mentioned within these literatures, despite the fact that attribution theory is typically viewed as the attempt to account for naive psychology (i.e., folk psychol-

ogy). In part, this lack of influence may be due to misguided emphases on distinguishing the person from the situation and covariation data, but equally important is the failure to distinguish behavior from other events (i.e., to distinguish naive psychology as a distinct domain of human understanding; Malle 2011).

Where Kelley has had an influence in cognitive psychology is in the causal cognition literature (e.g., Ahn et al. 1995; Cheng 1997). This is hardly surprising given that Kelley (1973) explicitly equated social attribution with nonsocial causal cognition. In so doing, Kelley effectively argued that social psychology has nothing unique to contribute to the understanding of causal cognition, and as a result cognitive psychologists were free to, and did, ignore social influences on causal cognition. In other words, Kelley engaged cognitive psychologists on their own terms and what got lost in the process was the social.

What animates much current research on naive psychology beyond social psychology is the proposal the folk psychology is a distinct *social* faculty (e.g., Baron-Cohen 1997; Frith and Frith 1999). By contrast with Kelley’s legacy in the causal cognition literature, the social has not been sidelined in the folk psychology literature, even though it is primarily nonsocial psychologists, such as clinical and developmental psychologists, who are engaged in this literature (e.g., Caputi et al. 2012; Dodell-Feder et al. 2013; Slaughter et al. 2013). Moreover, the folk psychology literature is being belatedly invoked to reinterpret well-established work in social psychology (e.g., Bazinger and Kühberger 2012; Malle 2011).

To summarize, there is more than one way to adopt the design stance. Mainstream cognitive psychology has adopted horizontal faculty psychology, which sidelines the social due to its emphasis on domain-general mechanisms. An equally viable option, though, is vertical faculty psychology or modularity, which focuses on domain-specific mechanisms. Among the social modules that have been proposed and have generated a vibrant literature are language, face processing, and folk psychology. Yet, none of these literatures intersect much with standard so-

cial psychology. Hence, I argue that by similarly adopting the design stance, particularly a modular perspective, standard social psychologists might likewise engage a much broader audience.

The Illustrative Example of Evolutionary Psychology

How might social psychologists go about adopting the design stance? In practice, would it mean social psychologists doing anything different from what they do now? Would they, say, need to be more cognitive and, if so, why and what would this look like? Answers to these questions can be found in the history of evolutionary psychology's development.

Prior to the emergence of evolutionary psychology in the late 1980s, the evolutionarily inspired investigation of human behavior was dominated by sociobiology. More specifically, a large measure of sociobiology fell within a program of research initiated by Richard Alexander, dubbed Alexander's program by Kitcher (1985), but also known as Darwinian anthropology (Symons 1989). In contrast to Wilson's (1978) somewhat pessimistic view of human behavior kept on a short tether by our genes, Alexander (1979) proposed that humans flexibly respond to their local environment with the unconscious desire to increase their fitness. In effect, Darwinian anthropology unwittingly melded evolutionary theorizing with folk psychology (Kitcher 1985; Tooby and Cosmides 1990). Rather than people acting to rationally satisfy their desires given their beliefs and various constraints on their actions, people act to rationally maximize their fitness given the various constraints on their actions. Furthermore, these proposals were tested by correlating individual differences in behavior with individual differences in reproductive success.

On the surface, Darwinian anthropology might seem to have little in common with social psychology, but the larger explanatory frameworks of both are similar. Both fields generally assume that people act to satisfy some desire and that they highlight individual differences. Where they

contrast is in the content of the desires that they attribute to people. The overarching desire that Darwinian anthropology attributes to people, albeit an unconscious one, is the desire to increase one's reproductive success, whereas the desires attributed to people by social psychology are much more varied. Regardless, both fields typically assume that these desires are rationally and individually pursued, subject to the constraints under which a person must act.

In the late 1980s, Leda Cosmides, John Tooby, and Donald Symons published a series of papers that were critical of Darwinian anthropology and argued for a different approach to studying the influence that evolution has had on the human mind and behavior (Cosmides and Tooby 1987; Symons 1987, 1989, 1990; Tooby and Cosmides 1989, 1990). Evolutionary psychology is the realization of this alternate program of research that Cosmides, Symons, and Tooby advocated.

In essence, Cosmides, Symons, and Tooby advocated adopting the design stance, but in so doing, they followed the lead, not of Dennett, but of Williams (1966). Williams argued that evolutionary theorists must distinguish between adaptations and fortuitous effects. Adaptations are the end products of a history of natural selection. Hence, they are anatomical, physiological, or behavioral solutions to ancestral problems, which one demonstrates by showing how the trait shows evidence of special design for solving the problem.

In evolutionary terms, solving a problem ultimately means promoting fitness—i.e., differential reproductive success. However, differential reproductive success in the present is not the mark of adaptation. An adaptation undergoes many generations of selection in which it contributes to the differential reproductive success of its bearers, yet the contemporary environment may have changed such that the adaptation no longer conveys a fitness advantage or, perhaps more importantly, precisely because the adaptation conferred a fitness advantage it displaced all rival designs such that now every member of the species possesses the trait. In the latter case, the adaptation no longer contributes to differential reproductive success precisely because there are

no differences between individuals with respect to the trait. Regardless of the reason, current reproductive success provides no evidence that the trait in question is an adaptation. Current reproductive success may simply be the fortuitous effect of some trait. Hence, evidence for adaptation must be sought elsewhere. Special design (i.e., complex functional organization) does not change when an adaptation saturates a population. It also disappears slowly—as slowly as it appeared, all else being equal—when the environment changes such that the trait no longer fits its environment. But even if one has determined to seek evidence of special design, there is still the question of where one is most likely to find it.

Cosmides and Tooby (1987) and Symons (1989; see also Daly and Wilson 1984) argued that overt behavior is too variable in most cases to be the locus of design. Consider, for example, food acquisition. Few would deny that finding nourishment is a long-standing problem with clear fitness consequences. Where, then, would one look for evidence of special design for procuring nourishment? At the level of overt behavior, there is too much variability for behavior to have been the target of selection and the locus of design. People can grow their own food, they can hunt and gather, and they can buy food at a supermarket. For one meal a person might eat a salad, for another they might eat pasta, and so on. Couched at the behavioral level, there are too many different ways of acquiring nourishment and their expression is too variable for each behavior to have been the target of selection and for each to be considered an aspect of our species' evolved design.

Instead, stable invariance is more likely to be found at the physiological or psychological level of description. For example, hunger might be regulated by the same motivation system across all humans, despite the fact that how they eventually act to satisfy their hunger varies enormously. Therefore, if one wants to explain behavior from an evolutionary perspective, one will need to look to the physiological and psychological mechanisms that motivate behavior to demonstrate evidence of special design. Moreover, due to the functional nature of cognitive

descriptions—cognitive descriptions specify the role that psychological states and processes play in solving a problem—the cognitive level of description is particularly suited for analyzing the design of a system (Cosmides and Tooby 1987).

The above argument generalizes to any attempt to apply the design stance. In other words, even if a social psychologist is not committed to an evolutionary account of the origins of mental faculties, if instead one adopts Cummins' (1975) more agnostic stance towards the origin of functional components, it would still make practical sense to couch one's proposals at the cognitive level because cognitive-level descriptions best capture functional relationships. Where social psychologists might part ways with evolutionary psychologists is in the latter's emphasis on special design. The emphasis on special design is driven more by evolutionary concerns (Dawkins 1986; Williams 1966). However, social psychologists might, likewise, choose to focus on special design for other reasons.

In psychology, special design for solving problems is naturally aligned with vertical faculty psychology and so it was that Cosmides and Tooby (1987) and Symons (1987) argued that special design was to be found in the modularity of the mind. The interested reader can refer to the chapter in this volume on modularity for scientific arguments in favor of modularity (see Chap. 4). Instead, I consider whether social psychologists might likewise wish to focus on special design and mental modularity. The answer I give here is that which I have already raised above. It is primarily by adopting mental modularity that social psychologists can adopt the design stance without letting go of the social. In other words, if social psychologists were to postulate specifically social faculties, like language, face processing, and folk psychology, they would, in effect, be invoking special design—they would, *de facto*, be postulating mental faculties are specially designed for social ends.

But does one need an evolutionary account of the origin of such faculties? Much vision research, for example, is modular without being (explicitly) committed to an evolutionary account of the origins of the visual system. As

Symons (1987) acknowledges, a little common sense goes a long way towards understanding the design of our perceptual systems. However, Symons also argues that this is less likely to be the case for social faculties. To begin with, unlike the physical world that our perceptual systems were designed to report on, the social world is rife with conflicts of interest. Consider, for example, mating psychology. From an evolutionary perspective, males and females should have quite different views about mating (Symons 1979). Hence, a male social psychologist consulting only his own intuitions about mating psychology is likely to have only a partial and biased understanding of human mating. Of course, a male evolutionary theorist is just as likely to have partial and biased intuitions about mating, but an evolutionary perspective acts as a corrective because it starts with the presumption that there will be conflicts of interest; it, therefore, encourages one to consider the perspective of both sexes; and it encourages one to consider other species with different life histories in which the selective forces acting on males and females can be different from those acting on humans.

Second, an evolutionary perspective suggests that our minds were designed for past environments, not present environments (Symons 1987; Tooby and Cosmides 1990). As Symons notes, the past was probably not all that different from the present with respect to those features of the environment that our perceptual mechanisms are attuned to. The social environment, however, has changed enormously. Therefore, intuitions based on contemporary social environments may be poor guides as to the design of our social faculties.

There is no denying that social psychology has been enormously successful; nor is it generally in the throes of some crisis that might prompt a major rethink of current practice. Nevertheless, in adopting the intentional stance as its primary mode of psychological explanation, social psychology has forestalled a deeper integration with the cognitive sciences. Research topics that should naturally concern social psychology such as language, face processing, and folk psychology have been largely ignored by social psy-

chologists. The corrective to this situation is for social psychologists to adopt the design stance. This would naturally lead social psychologists to adopt a more cognitive orientation, but it need not be at the expense of the social, provided that social faculties are investigated from a modular perspective. In so doing, social psychology would be following the lead of evolutionary psychology, which itself made the transition from folk psychological sociobiology. While it is not necessary for social psychologists to explicitly adopt an evolutionary perspective in making this transition, were they to do so, they would avail themselves of a wealth of evolutionary theorizing on social matters.

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