



Duane Kauffmann

Article

Biological and Environmental Constraints on Knowing the Self

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In the context of dialogue between psychological science and Christian faith, Heather Looy offered a critique of the assumptions and practices of psychology, especially as they pertain to self-understanding. In response, this article offers a brief review of research findings pertaining to automaticity, situational effects on behavior, and heritability components in belief patterns, and argues that this empirical work provides both insights into, and constraints on, self-understanding. The concluding section identifies issues and questions requiring attention as the dialogue Looy initiated continues.

In her article stimulating discussion of issues on the psychological science/Christian faith and practice frontier, Heather Looy chides those in the psychology classroom for teaching that

One of the first things they are taught is that people cannot be trusted to have accurate insight into their own psyche. It is the psychological *scientist* alone who, by observing dispassionately from the outside, can tell people the *real* reasons for their behavior or mental states.¹

In this essay, the author argues that the evidence from current research suggests that there are biological and environmental barriers to “accurate insight” and “real reasons,” and that the professors are correct in contending that research can provide insights into the working of relevant cognitive and psychological processes. To be sure, the scientific community is still a long way from a complete understanding of how we come to understand who we are—and thus it would certainly be an overstatement to

claim that the “real reasons” can be *fully* specified or that psychological science *alone* will provide all the answers. However, the research discussed below identifies some of the barriers to freedom of choice and action that constrain human “free will,” and the equally numerous challenges humans face in understanding who they are.

It is readily granted that humans enjoy the feeling of being in control of their lives; they are usually quite convinced that the beliefs, values, and behavior patterns they have chosen for themselves are more desirable than the alternatives they have rejected. These perceptions are reinforced by a culture that emphasizes individual choice and the freedom to believe as one wishes. The Christian community reinforces these perceptions when it emphasizes the need for individuals to choose the way of Jesus and to make freely selected changes in beliefs and behavior. Thus it comes as a splash of ice water to confront research that suggests that we are much less knowledgeable and accurate about who we are, and how we came to be where we are, than we recognize, and we are not nearly so free to choose as we would like to believe.

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Streams of Evidence

While psychology as science may not be able to provide detailed understandings of *all* the activity of the individual mind, it can use the methods of science (even while acknowledging all the cautions and limitations noted by critics) to identify some of the factors that impact what goes on in the individual mind as it strives for meaning and self-understanding. For as much as I (and Looy) might wish to believe that what goes on in the meaning-making mind is the product of free will and generates accurate self-understanding, there is very good reason to argue that (a) the amount of “free will” in this process is less than generally believed, and (b) the level of self-understanding is indeed “through a glass darkly.”

Automaticity

The present findings point to the automatic nature of evaluative differentiation between in-groups and out-groups, suggesting that people are hard-wired for intergroup bias. That is, intergroup bias emerges at the implicit level, without people’s intent or conscious awareness.²

This research shows a very active neural system which acts at speeds faster than the conscious systems in the brain can immediately interpret, and in a preconsciousness domain that shapes the way the aware brain responds. While there are any number of ways such preconscious processing affects human beings, a very brief exploration in one area, person perception, will demonstrate the character of the automaticity research stream.

A substantial body of research shows that there are elements of the cognitive processes of recognition and categorization that occur physiologically some moments before we become consciously aware.³ Thus, we might say that our brain “knows” the sex, age category, and ethnicity of a person we meet on the sidewalk (or whom a researcher has “primed” through a laboratory manipulation) some milliseconds before we are able to overtly respond. Furthermore, the research demonstrates that the brain network invokes its hard-wired propensity to detect features and categorize a visual stimulus.⁴ Categorization leads to the selection of a classification label. With this label comes an entire network of connections and associations.

It should not be surprising that the brain has a natural propensity (i.e., is “hardwired”) for categori-

zation.⁵ Many who have studied developmental learning believe that the human brain is uniquely and innately structured (i.e., a “language acquisition device”) to acquire language. A substantial proportion of the learning associated with language is the formation of categories and their associated boundaries; that is, what is a cat? what is a dog? and what is the difference? The human brain seems well designed for this differentiation and categorization process. Thus it should not be surprising when that categorization process is extended to the perception of people and the placing of people into groups defined by association-rich category labels, often characterized as stereotypes. Indeed, it may take only the presence (or mention) of a person to trigger automatically the attitudes stored in our brain’s memory banks.⁶

In the context of this physiological reality, the most disturbing element of the person perception process appears to be the brain’s propensity to demonstrate “bias” toward those who are like us and against those who are unlike us, a bias which may be built into the neuronal processes that precede awareness. For persons with a commitment to the equality of all humans, this bias serves as a nagging temptation whose effects must be acknowledged and resisted. Unfortunately, both the empirical literature and the history of human relationships demonstrate all too clearly that resistance is neither quick nor easy.

One fascinating question social psychologists are now confronting is whether persons can alter or “educate” the brain networks that label and associate when we encounter persons. Could we train our neurons to use superordinate categories such as “human being” or “child of God” rather than male, African-American, Latino, female, or Muslim cleric?⁷ Would it be possible for us to focus our concern for others in a manner that stimulates activity in the brain circuits that promote empathy?⁸ Is it possible to restructure our “hard-wired” neural networks to avoid intergroup bias (e.g., transfer positive automatic views⁹)? Might it indeed be that the transformation of the neural network becomes the process by which our thoughts are transformed (Psalm 139, Rom. 12:2) and we demonstrate “the mind of Christ”?

The empirical evidence that suggests that automatic responses may not be easily controlled must

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also be reviewed. As summarized in the quotation at the beginning of this section, some researchers feel that the emphasis should be on the automaticity of impressions and beliefs. This conclusion echoes the earlier words of Bargh and Chartrand.

So it may be, especially for evaluations and judgments of novel people and objects, that what we think we are doing while consciously deliberating in actuality has no effect on the outcome of the judgment, as it has already been made through relatively immediate, automatic means.¹⁰

The implications for automaticity and its effects on self-understanding are summarized effectively by Mahzarin Banaji, a social psychologist who has contributed significantly to research concerning implicit attitudes.

My colleagues and I have conducted research on implicit social cognition, first by offering demonstrations that our minds contain knowledge about social groups (stereotypes) and attitudes (prejudice) towards them—whether we want to or not. We expect that such processes operate in ordinary ways in the course of everyday life—whether we wish them to or not. And the implication of this discovery poses a challenge to those who argue in seminars, in diversity training workshops, and in private decisions that all we need do is to simply rise above social group categories, to put them aside in our judgments. That may be a luxury afforded to conscious thought and feeling, not necessarily to judgments that have their basis in implicit social cognition.¹¹

The research on automaticity, as reflected in Banaji's comments, makes it evident that transcending interpersonal and intergroup barriers will not easily result from good intentions or governing legislation. Indeed, ongoing tensions in many parts of the world are reflected with depressing regularity by border barriers, ethnic cleansing, and/or civil wars, making it evident that "we" versus "they" is deeply rooted in "implicit social cognition." Lest we become unduly pessimistic about the human capacity to overcome the bondage of automaticity, let us remember that the biblical image of "wars and rumors of wars" (Matt. 24:6) is transformed by a message and a Power that is eloquently summarized by songwriter John Oxenham: "In Christ there is no East or West, in Him no South or North; But one great fellowship of love, Throughout the whole wide earth."

Power of the Situation

Another research tradition identifies external forces that quite directly restrict the freedom to act as freely as we might believe we are capable. Classic research such as Milgram's¹² famous studies of obedience and the Stanford Prison experiment¹³ demonstrated just how powerful situational variables can be. Milgram found that a large number of "good" people would follow the orders of a researcher and deliver strong, potentially lethal, shocks to another individual. Zimbardo and his colleagues had to terminate their simulation when "guards" and "prisoners" allowed the situation to shape their behavior in sadistic and passive directions respectively. These research studies show that whereas individuals may believe they have the freedom to define a situation and respond freely, the evidence suggests that the situation shapes the parameters of the situational definition and the behavior that is evoked.

It is of interest that social psychologists have found that human observers of others' behavior are guilty of a "correspondence bias"¹⁴ in the form of a "fundamental attribution error."¹⁵ These terms refer to the fact that observers of others attribute to those others the character or traits associated with the behavior they observe—and ignore situational constraints that may affect the behavior (which they view as "excusing" the acts).¹⁶ That is, observers attribute freedom to act and assign responsibility to the individual, while the individuals in the situation see it quite differently. They take credit when the behavior is positive or successful, while blaming the situation for undesirable outcomes. As Nauta found, this pattern is found even in ministers!

The differential attribution of positive and negative outcomes to internal and external factors demonstrates the self-serving bias active in ministerial performance explanation. Positive outcomes are attributed to internal factors, a self-enhancement effect; negative outcomes are attributed to external factors, a self-defensive or self-protective effect. When something positive happens, ministers accept some personal responsibility. When confronted with something negative, responsibility is not accepted but attributed to external circumstances.¹⁷

The power of social factors to shape meaning is pervasive in the sociology of religion. Examination of a recent issue of the *Journal for the Scientific Study of Religion* reinforces this point. Among the articles, one

finds research on how religious values affect the development of hope and self-esteem in adolescents,¹⁸ the ways in which socioeconomic status is linked to beliefs in prosperity gospel,¹⁹ and how parental religion and parental divorce shape the meaning systems of those who experience these dynamics.²⁰

While it is highly unlikely that the day of judgment will allow a “the environment made me do it” defense, environments do put a great deal of pressure on behavior. While, indeed, it could be argued that one always has the freedom to resist, the environment adds one more element to those that shape the meaning of a situation and that narrow the range of our freedom to act. Individuals may feel they have freely created meaning as they move through the situations of life, but the evidence suggests that the situations themselves often do the shaping of that meaning. The fact that almost no one anticipated the findings of Milgram and Zimbardo shows that we humans may be very good at making internal meaning, but our “real human understanding”²¹ may not be very accurate and not very predictive of our actual behavior.

Belief Systems

Seeking answers to questions about human experience and behavior is not so much a process of finding the “objective” truth of ourselves, but rather one of finding ways to live well and faithfully in our current context.²²

While no one would object to living well and faithfully, and while the temptation to biologism and excessively reductionist science must surely be avoided, recent work suggests that humans are not as free to make choices about what to believe and how to live as many may wish. In short, there is much evidence that we are not as free of the effects of environment and biology (and their interaction) as many assume.

Many a thoughtful observer in the US has surely pondered the question—how did Rush Limbaugh, Chris Mathews, Glenn Beck, or Jesse Jackson come to make meaning in such very different ways? Or more personally, how can people hold views that are so very different from those I hold since I am so convinced of the correctness of my views? To what degree did I or any of those mentioned above have the freedom to choose to make meaning of our lives and choose as we did—and to what extent were we

shaped by powerful forces over which we had little or no control?

To illustrate these points, consider political and religious beliefs. While many would argue that these are freely chosen, it seems apparent we are not so free as we would like to believe. We have known for some decades that the best predictor of one’s religious beliefs are those of the parents. To be sure, the correlation is not 1.0, but it is positive and of considerable magnitude.²³ More recently, there has been a pattern of results suggesting that political beliefs are affected by developmental factors.²⁴ And consistent with the automaticity theme above, Haidt notes that “liberal brains” and “conservative brains” respond differently to stimuli. “Within the first half second after hearing a statement, partisan brains are already reacting differently.”²⁵

The argument is not that we have no control over our choices, but that those choices are strongly shaped by variables over which we had little or no control. Could we have chosen otherwise? Perhaps. But the evidence suggests that what seem to us to be freely chosen beliefs are in fact beliefs shaped by powerful forces of which we are not aware. The perceived freedom feels good, but is it really free?

The Brain

Consider the following: dementia, ADHD, stroke, Alzheimer’s disease, autism, psychopathy. In each of these conditions, along with many others, the brain and central nervous system are implicated. Two pertinent questions deserve comment: (1) to what degree are those suffering from brain challenges responsible for their behavior? and (2) to what degree are such persons capable of achieving self-understanding?

Unfortunately, the vicissitudes of life give us all-too-many examples of the dominant effects of neurons firing (or failing to fire). Encountering persons who have Alzheimer’s disease, are dangerously psychotic, or have experienced a stroke, one realizes that what happens in the brain has the capacity to completely alter lives and leave individuals at the mercy of nerve fibers and neurotransmitters. In the midst of such cases, one is forced to realize that there are humans who are greatly limited in their ability to self-understand and who lack the free will to make responsible decisions. This point is clearly articulated by neuroscientist David Goldman:

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At some point the victim of Alzheimer's disease loses touch with enough parts of their own self that the body and brain that go forward are no longer the former self, and at some point there is no mind to make free choices.²⁶

The courts have long struggled with the question of responsibility for behavior and have determined that there are, indeed, cases in which the individual was not capable of determining that their behavior was dangerous or illegal (see Steinberg et al.,²⁷ for a discussion of these issues in adolescence). This requirement of the law is a good window into the complex world of self-understanding and the limitations of free will. The important consideration is that the legal system (like the divine judge of Matthew 25) must make a dichotomous distinction—guilty or not guilty—on a dynamic that is inherently a continuous variable. The key point is that human self-understanding and behavior are fundamentally affected by the biological processes of the human brain. The degree varies, as the diminished examples make clear, but none of us can escape the fact that we are not completely free of our biology. Science may ultimately help us understand the magnitude of the effect on self-understanding, but we must acknowledge we are not as free of our biology as we may perceive.

Into the Dialogue

To act as if we *can* and *should* seek a view from without, and at the same time dismiss the view from within, surely deeply distorts our understanding of the causes of our behavior.²⁸

Seldom is DNA destiny and the predictive value of any individual genetic marker available today is low, but it is a misappreciation of the science to disregard the importance of inheritance.²⁹

The research just discussed provides the framework for addressing a host of intriguing, challenging, and frustrating questions, questions which get to the substance of how subjective meaning-making may be leavened by appreciation of a "view from without," that is, knowledge of "external" research findings. To what extent are individuals capable of accurately understanding who they are and why they do what they do? At what point does a stroke or dementia victim lose the capacity for self-understanding? What does it mean for a person who becomes a Christian to have a renewed mind? Can the research evidence help us understand the biblical observation about the

human tendency to do what is right in their own eyes? Does the empirical evidence support the conclusion that discernment concerning issues of faith is best undertaken as a group task? What are the implications of genetic and social variables for how believers think about, and practice, evangelism? Should the research evidence compel us to think in new ways about the role of the Holy Spirit in people's lives?

To be sure, there is no way one can address even one of these questions fully in the space available, much less all of them. In view of this fact, and in the spirit of the current effort to stimulate dialogue, the present author will identify, and comment briefly on, several implications that might be derived from the evidence cited above.

1. Capacity for self-understanding is a continuous variable with many limitations. While there are substantial individual differences, we can likely all agree that those suffering a serious stroke and those experiencing advanced Alzheimer's disease may have their capacity for complete self-understanding compromised. In a similar vein, the depressed individual with strong suicidal thoughts and the ideologically radical person who believes there is justification for killing others may be viewed as lacking acceptable self-understanding. But self-understanding is an individual differences variable and even those of us who consider ourselves normal, perhaps exceptional, are subject to limitations and blind spots in self-understanding. Looy may argue, "Let us remember that we are always inside a human being, and in our subjective, experiential perspective is rooted all real human understanding,"³⁰ but the scientific evidence suggests powerful limitations. Autonomic systems, genetic factors, and environmental variables, some of them known, some not, exert influence on even those most confident of the understanding and meaning they attribute. In the face of these factors, how individuals and/or psychological scientists contribute to "all real human understanding" will be crucial to the conversation.

2. The Bible teaches skepticism and limits concerning self-understanding. "The heart is deceitful above all things, and desperately wicked: who can know it?" (Jer. 17:9). "A person may think their own ways are right, but the LORD weighs the heart" (Prov. 21:2, NIV). Psychology as a scientific discipline is not in a position to evaluate its findings on the environ-

ment and the brain and their effects on self-understanding in the context of Scripture. Consequently, the dialogue about human self-understanding among believers will need to consider findings from science in the context of the advice and counsel of scripture.

3. Research can provide valuable assistance in self-understanding. The author readily admits a strong commitment to a rigorous research approach to psychology, a perspective reflected in the closing paragraphs of Ferguson and Heene's essay on "undead theories" in psychology.

Instead of rigid adherence to an objective process of replication and falsification, debates within psychology too easily degenerate into ideological snowball fights, the end result of which is to allow poor quality theories to survive indefinitely.³¹

To be sure, one must acknowledge the temptation to reductionism, show caution in generalization, and await the confidence in conclusions that comes following replication. The stream of evidence cited above, while acknowledging that much of it is part of ongoing work without conclusive answers, provides helpful insight into the operation of the human cognitive system. As such, it provides valuable input to the conversation concerning human self-understanding.

In considering the relative value of research findings and personal insight with respect to self-understanding, it is worth noting the classic confrontation between clinical (interviews, professional judgment) and actuarial (test-based, statistical) approaches to prediction.³² While it could perhaps be argued that the data is biased because it has been generated by scientific methods, the trend of the data throughout all of the many variations and investigators is compelling. In repeated tests of clinical and actuarial predictions, the actuarial approach is consistently found to produce a superior outcome. For this writer, such a strong and consistent outcome suggests that psychological research findings can be quite valuable and provide a needed corrective to individual efforts at self-understanding.

4. A renewed mind is of the Spirit. "Do not be conformed to this world, but be transformed by the renewing of your mind" (Rom. 2:2). To achieve this goal in light of the research evidence of powerful constraining variables, the Christian might well be driven to consider anew the necessity of the Holy Spirit in transforming the human mind. Personal

commitment and a supportive community of believers can be of great import, but the renewing of the mind at its deepest regions must surely require power beyond human understanding. Indeed, believers might wish to thank the research community for calling attention to the effects of genetic and environmental "principalities and powers" against which they are arrayed.

5. Discernment is a community activity. I strongly affirm Looy's comments on the relational character of the human individual ("fundamentally relational beings") and the essential role that others play in self-understanding ("unable to develop and function without a social community").³³ We need our sisters and brothers in the believing community to assist us in living a life of faith in the midst of many rival approaches to ultimate meaning. Each of us individually carries far too many limitations to fully understand. It is an essential role of the community of faith to help us deal with the effects of those constraining variables that research has identified. Indeed, given the research evidence, it seems that Christians should reaffirm the need to seek the perspectives of other believers as an important corrective to the limits of individual understanding.

6. For Christians, there are many issues in the free will/self-understanding domain that we can likely understand only in part. We do see through a glass darkly as we consider such questions as the following: Did I, a committed believer raised in, and committed to, the Anabaptist tradition, have the freedom to be a Baptist or an agnostic? Does the individual born into a stressful, violent, agnostic, drug-culture home have as much chance to come to faith as one born to caring, believing parents? Where is free will and/or responsibility for self-understanding, for choosing the way of Christ, in the midst of powerful biological and environmental forces? What are the implications of these issues for the way in which the Christian community approaches evangelism?

The challenge we face in seeking to answer such questions must surely require our best efforts as we seek to understand the implications of findings in social and physiological psychology for the life of faith. Indeed, as we come to understand the substantial genetic and social forces at work in the human cognitive system, it can be hoped we become more understanding and accepting of others who are also

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struggling to understand who they are and how they got that way. For they too, like us, are the result of a complex process over which limited control is possible and which we have only begun to understand. ●

Notes

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