

Preferences, perceptions, choices, and the unconscious, but not Freud

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Economists, in the context of economics, do not distinguish between conscious and unconscious thought - I have heard some discuss the distinction in the context of their psychotherapy sessions.¹ But, psychologists find the distinction central to explaining choices, perceptions, and how we manage to make our ways through the world.²

The unconscious, once limited to harboring our infantile Freudian traumas, now plays many roles. Much recent research in psychology and neurobiology suggests that our brain consists of many separate processing centers: one for conscious thought (“should I or shouldn’t I buy the Lexus and marry Shirley”) and many for unconscious tasks. Unconscious activities were once thought limited to such mundane activities as processing language, not falling over, and seeing what we see when we open our eyes – the stuff the conscious mind did not need to be bothered with. Now it is thought that our unconscious also plays a major role in many of the choices we make – my perception that a Lexus is better than a Ford, and my decision to drop Lois and get the new Lexus.³

And, these different centers don’t always agree on the course of action. We are “not of one mind.”

Many questions arise. Who is in charge? It depends on what is being determined and the context in which it is being determined. Are we conscious that a decision was made? Often not. Are we aware/conscious of why we do what we do? Probably not, but often our conscious brain makes up a good story to explain what was determined by our unconscious, or so says some psychologists. And, what happens when our conscious and unconscious disagree?

These psychological theories and conjectures as to how our brains/minds work, even if only slightly correct, should be of great interest to economists, particularly those of us who have spent our lives estimating preferences and choice.

¹ Synonyms for unconscious include aconscious and nonconscious.

² Here, I am defining perceptions as one’s beliefs about the world, what things are like, how things work, and the results of different actions. Perceptions and preferences are different things: some perceive that our President is not terribly intelligent (that perception might or might not be correct); whether one prefers our country with an intelligent or dumb leader is a matter of preference.

³ For a persuasive and accessible presentation of these views see Wilson (2002). [Timothy Wilson](#) is a prominent social psychologist at the University of Virginia.

The economic theory of the mind?

I have been speculating on how economists think of the brain and mind. I teach my students that economists assume/believe that people have preferences: an individual can rank states of the world in the sense that they know that they prefer *World F* to *World B* (rank it higher). For example, I prefer long hours at work, life with Shirley, and a Lexus to forty hours a week, a Chevy, and life with Lois. I also tell my students that economists assume the individual chooses the bundle that they most prefer from those available to them. While unstated, an implication is that I have only one rankings (I am of one mind) and pursue what is in my mind's eye. There is only one me/self.

In our simplest models of choice, economists assume full information – we all know the implications of choice *A* versus choice *B*, and we all know the same things. This convenient assumption means we don't have to worry how perceptions are created or how they might differ across individuals. But, the world is not fully known, and what we know/believe about it varies greatly. In the more general economic models of choice, choice is determined by preferences, constraints, motivation, and perceptions.

While unstated, most economists, I imagine, would like to think that perceptions are created by the conscious mind's assessment of the evidence: I decide, by consciously weighing the evidence, that illegal immigrants do, or don't, take jobs from the less-skilled in our society. Or, at least, this is how I might explain to my students the process of perception formation.

Economists typically think of the brain as a black box - a single black box - that prints out one set of stable preferences. Many of us refuse to think about how or why preferences arise; we argue that the mechanics of preferences creation are unimportant since our sole goal is to predict choices.⁴

Psychologists cause me conscious dissidence

Regrettably, psychological research on the unconscious is one their avenues of research that is forcing me to question the above mentioned tenets of consumer theory.⁵ “Do I have preferences of the sort economists assume and, if so, do I ‘know’ them”.

⁴ There is a camp in psychology called *behaviorists*; they ruled the psych journals for much of the first half of the 20th Century. Quoting Wilson (2002, p. 4), “the behaviorist onslaught in psychology was fueled by a rejection of mentalism; behaviorists argued that there was no need to take into account what occurred inside people's heads, consciously or unconsciously.” Psychology has largely reject behaviorism, economics has yet to do so.

⁵ Other findings, by psychologists, neurologists and others, raise the issue of whether we have stable preferences in the economists' sense of the term. The intent here is to concentrate on the conscious/unconscious distinction. For some of these other perspectives, see, for example the work of the economist [George Loewenstein \(2000\)](#), [Loewenstein, O'Donoghue and M. Rabin \(2003\)](#). Loewenstein is a behavioral economist (“economists that bring psychological insight to bear on economic phenomena,” [Loewenstein \(1999\)](#)).

Start with second question – it might be easier to answer. Assume, for the moment, that one does have preferences in the economic sense of the word. If I have them, do I know them in the sense that I am consciously aware of them, and could I tell you what they are, or do I only know them in the sense that I make choices based on them. One could easily imagine having preferences, but not being conscious of those preferences. Sofie, my dog, prefers meat to milk, milk to bread, and meat to bread (yes, her preferences are transitive) but she is probably not consciously aware of her preferences. Maybe Sofie is not unique in my household; quoting Shakespeare, “I have much ado to know myself.”

Should it matter to economists in what sense one knows one’s preferences?

I think the answer to this question depends on what kinds of data one is willing to use when one estimates preferences. It probably would not matter to me if God limited me to learning about preferences solely by observing choices made (using only revealed-preference data). In that case, why would I care if my subject is or is not consciously aware of her preferences: once I correctly estimate the individual’s preferences, I can correctly predict his or her choices, even if the individual is clueless as to why he will do what he will do.

However, God has not forced me to ignore stated-preference data. For many years, I have estimated preferences using both revealed and stated-preference data (asking people about their preferences and presenting them with hypothetical choices).⁶ To state one’s preference in the sense that one says “I prefer *B* to *A*” requires that one is consciously aware of that preference, or at least one can quickly move it to conscious awareness.

Can I state a preference that is inconsistent with my preferences? The many economists who mistrust stated-preference data would say it happens all the time, explaining it in terms of lying or lack of introspection on the part of the respondent (“Ask a hypothetical question, get a hypothetical answer.”)⁷ But, maybe there is a deeper issue? Maybe I cannot extract my preferences from my unconscious no matter how hard I introspect? And, maybe my conscious mind will make something up so I appear to myself as a rational soul who makes rational decisions: research shows that we often rationalize our choice to maintain a positive, or at least consistent, self image (Gazzaniga and LeDoux (1978) and Gilbert and Wilson (2000)). Besides, I would be embarrassed to say, “I am clueless as to why I do what I do”, so make something up and then believe it.⁸

⁶ In fact, I “need” stated-preference data. As an environmental economist, I estimate how individuals trade off environmental commodities for one another and for market goods. Since individuals typically do not choose the levels of environmental quality they consume, an individual’s preferences for environmental resources cannot be estimated with only revealed-preference data.

⁷ See, for example, Diamond and Hausman (1994) aptly titled, [Contingent valuation: Is some number better than no number?](#) Interestingly, most economists who disparage stated-preference data believe that we have preferences and that observed choices are manifestation of those preferences.

⁸ I have developed numerous choice-question surveys: “do you prefer alternative A or alternative B”, both described in terms of the levels of some small number of attributes. After the choice questions, I often ask the importance the respondent placed on each attribute when making his or her choices. Are the answers to the importance questions really indicative of the importance of the different attributes in determining which

Maybe the only way to learn about your own preferences is to observe your own behavior or ask your friends what they think you like and dislike.⁹ Introspection might be a misguided tool for extracting preferences.

So, on to the other question: Do I have preferences in the economist's sense of the term?

Maybe I have different sets of preferences: conscious preferences and one or more sets of unconscious preferences, different sets associated with different unconscious processors.¹⁰ There is an economics literature on the possibility of private preferences (ranking over bundles of private goods) versus public preferences (ranking over different packages or social and political systems), but, to my knowledge, no economic literature on conscious versus unconscious preferences.

Summarizing the research, it seems that perceptions formed and decisions made by the unconscious, relatively speaking, are more instinctive/programmed/quick than those made consciously: “a hallmark of the adaptive unconscious is automaticity, whereby information is processed in rapid, unconscious, involuntary ways” (Wilson (2002) p. 89) When in the street with the truck approaching or drunk with a sexually-attractive person on the next bar stool, quick action is required, and the action taken is likely to be substantively determined by one of our unconscious processors: it would take too long to cogitate. The contents of our unconscious seem to be determined by some combination of genetics, culture and experience.¹¹

Alternatively, when there is leisure to cogitate, our conscious thoughts play a bigger role in what we will do. The context in which a choice is made likely plays a large role in whether that choice is made by our conscious or unconscious minds. Time to decide is just one of the relevant contexts; others are emotional state (angry, sexually aroused, etc.) one's current self image, and whether a pretty girl asked you to do it.¹²

alternative was chosen? Maybe another person would be a better judge than you of your choices (Wilson and Stone (1985)).

⁹ Wilson (2000) suggests that one can learn about one's perceptions and preferences by reading the literature on psychological experiments: one learns how and why people behave the way they do, and then surmises that the findings probably apply to them as well. As an economist, should I suggest that you study estimated demand and utility parameters and then surmise those estimates are yours? This is not as goofy as it sounds. Maybe, how much others are actually willingness to pay for a flat-screen TV or an environmental cleanup is a good indication of what I would pay after accounting for age, gender, and income. In fact, that is precisely what economists do when we assume our sample estimates apply to the population. Maybe it is a better indication than what I would say I would pay.

Another way to proceed is to observe your own behavior and then assume you have the preferences that generated that behavior (Bem (1972)); you are a black box to yourself.

¹⁰ An extreme point of view, called *conscious inessentialism*, argues that our conscious mind has no influence on our choices, it just thinks it does. If so, one does not have conscious preferences, one just thinks one does. See Flanagan (1992) for a review of this viewpoint.

¹¹ For an example of research on how unconscious motives are formed, see McClelland, Koestner and Weinberger (1992)

¹² Historically, economists have assumed preferences and perceptions are not context specific, but some economists make some exceptions. There is much evidence that preferences and choices vary with

I am not saying that we have separate and sometimes inconsistent conscious and unconscious preferences, but our behaviors are not inconsistent with this possibility. It is a question worthy of research. If we do have multiple sets of preferences, what am I estimating when I estimate the parameters in utility functions or demand functions?

If I have multiple sets of preferences, is there just one unique me, or do I have many selves.¹³ Choices that are inconsistent under the assumption that one employs the same preferences in all contexts are not inconsistent if our preferences are context specific.

Survey questions are typically answered quickly, suggesting that the unconscious might play a larger role than the conscious in determining whether one circles option A or option B, or whether one circles “mostly agrees” or “somewhat agrees”. The timeline for consumer purchases is more varied: sometimes we agonize over a purchase for weeks or months; sometimes we go to Costco for groceries and come home with a flat-screen television.¹⁴

Perceptions are formed, often very quickly, and often by our unconscious: Is the person nice? Does TV model A or B have a better picture? Will dredging PCBs from the Hudson River make the river cleaner? The prejudices of many are unconscious.¹⁵

Economists who write surveys to collect data on preferences are in the business of trying to create or change perceptions

emotional state – un-aroused people would never have unprotected sex with someone they just met, but unprotected sex with strangers happens all the time. For the effects on choice of visceral states see [Loewenstein \(2000\)](#). For how we systematically over-predict how much good and bad events will affect us – so, mis-want – see the psychologist [Daniel Gilbert](#) (Gilbert and Wilson (2000) and [Gilbert, et al. \(1998\)](#)). For a neurological discussion of the effects of emotions on choice, see the neurologist and physician [Antonio Damasio](#) (1994). See also the research of the psychologist [Daniel Kahneman](#), a Nobel Laureate in Economics, on anchoring, status-quo bias, and preference reversals.

¹³ Quoting Wilson (2002, p. 91), “There is little research on the consequences of having disparate conscious and nonconscious ‘selves’ that are out of synch. An exception is the work of Joachim Brunstein and Oliver Schultheiss... they found little correspondence, on average, between people’s nonconscious and conscious motives.” See Brunstein, Schultheiss and Grassman (1992).

¹⁴ Does the fact that Costco will take anything back at anytime make us better or worse off? At Costco one does not have to live with one’s choice. Some research suggests that those with the option to reverse their choice tend to be less pleased with the choice than those forced to live with their decision.

¹⁵ Note that one can have dual perceptions, for example, consciously not prejudiced, unconsciously prejudiced. To check out how your conscious and unconscious prejudices might differ go to [Project Implicit](#). Quoting from this web page, “It is well known that people don't always 'speak their minds', and it is suspected that people don't always 'know their minds'. Understanding such divergences is important to scientific psychology. The web site presents a method that demonstrates the conscious-unconscious divergences much more convincingly than has been possible with previous methods. This new method is called the Implicit Association Test, or IAT for short.”

As someone who has done many surveys to estimate how much an impacted group was damaged by an environmental injury, I care greatly about the perceptions respondents hold when they are asked the question(s) whose response will be used to estimate willingness-to-pay for the absence of the injury. The respondent must understand the injury, and every respondent needs to have the same understanding. A mechanism must be presented for removing the injury that respondents find feasible. The goal is to educate the respondents so that everyone perceives the same injury and believes that the mechanism proposed will eliminate the injury. If perceptions vary, what is being valued varies.

Economists who develop preference surveys devote great effort to how policies and outcomes are described and convincing the respondent that there is a feasible mechanism for achieving the outcome (implementing the policy). Information/facts are presented to the respondent in the hope that “correct” perceptions are created. If perceptions are formed unconsciously, and long lived once formed, these tasks are more complicated than most of us would like to hope.

I have an overweight relative who forever has believed she will get cancer if she drinks diet soda – it is her strongly held perception. She says that she learned this from a friend who read it somewhere. This is her verbal explanation of how she believes this perception was created. That said, most of us have many friends who say many things, so what determines which few of these things become parts of our belief system? There is likely something in her unconscious that made her take to heart this particular piece of information/disinformation – maybe it is her observed proclivity for sugar.

I could tell her in a survey that soda does not have negative health effects, except for the calories, but would that change her perception?

Final thoughts

Finally, there is the economist’s justification for not caring how or why one has the preferences one does – “it does not matter if prediction is the only goal.” This argument has some merit if one’s preferences are unique and stable over long periods of time, but the argument is wanting if a change in context causes one to switch to a different set of preferences (between conscious and unconscious preferences or between different sets of unconscious preferences). If one’s preferences change with context, predicting choices requires predicting context and knowing something about how and why preferences are formed.

Maybe my preference is for the good old days, when I was not willing to question the assumption that an individual had one stable ranking over states of the world, and I imagined an individual could thoughtfully describe her preferences to me? But, maybe not; maybe my conscious mind wants it one way and my unconscious another.

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