

of sacred social items (i.e., they may be purchased with money), and that the resulting transactions of these items are competitive in nature (i.e., driven by notions of profit), may even strongly evoke our disgust response to such phenomena. There is also evidence to suggest that sensitivity to disgust explains significant variation in political ideology – political conservatives are more easily disgusted than liberals, especially regarding policies pertaining to the moral dimension of purity (Inbar et al. 2009). We argue that in considering FEBs about market economy as well as other socio-economic policies, the role of intuitive emotional evocation in response to the interaction between economic transaction and social value must be emphasized.

How *Homo economicus* lost her mind and how we can revive her

doi:10.1017/S0140525X1800033X, e167

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Abstract: The target article by Boyer & Petersen (B&P) contributes a vital message: that people have folk economic theories that shape their thoughts and behavior in the marketplace. This message is all the more important because, in the history of economic thought, *Homo economicus* was increasingly stripped of mental capacities. Intuitive theories can help restore the mind of *Homo economicus*.

For a long time, *Homo economicus* has lived and struggled to survive in the imaginations of economists. *Homo economicus* – let’s call her Alice – is the main character in theories of economic behavior. As economists’ ideas took some peculiar philosophical turns, Alice had to adapt and she eventually lost her mind. But cognitive science can help bring life back to the core of economic theory, first by restoring the natural intelligence of *Homo economicus*, and then by delving into the cognitive systems behind her economic thinking.

In the beginning, Alice lived in a vibrant world much like our own. She was a full-blooded human with thoughts, feelings, needs, motives, theories, imagination, compassion, and a lively social life. Adam Smith (1759; 1776), John Stuart Mill (1844; 1848), and other classical economists wrote about Alice as an intellectual equal with the full range of human experience (see also Smith 1998). Of course, Smith and Mill were especially keen on Alice’s pursuit of wealth because this was the distinctive province of economics. But, these authors did not assume that Alice exclusively sought wealth, or any other singular goal like pleasure, happiness, satisfaction, or utility. Instead, Alice could pursue a mixture of different goals, just like real people.

Economics aims at explaining the portion of society that corresponds to the market. Its conclusions are not applicable to those parts of society where wealth is not the main motive of human action. (Mill 1844, p. 589)

In the next wave of economic literature, Alice’s situation dramatically changed (reviewed in Stigler 1950). Neoclassical economists insisted that Alice had to fit entirely into certain mathematical equations, no matter how small and uncomfortable they might be, for this was the only way to be rigorous and scientific (see also McCloskey 1991). Alice no longer needed thoughts, ideas, and reason; economic theorists would assume she knew everything. And she was permitted only one overarching goal – maximizing utility – that encompassed every sphere of life.

Strangely, though, neoclassical economists permitted Alice to derive utility from anything at all. If she liked, she could seek bankruptcy, poverty, starvation, injury, or death. “There’s no accounting for taste,” they said. However, Alice was not allowed

under any circumstance to make choices that were inconsistent; this was deemed irrational in a most serious way. Since Alice could want anything, she became unhinged from the realities of life. She developed bizarre and arbitrary preferences about risk, time, equity, civic duty, and many other matters.

The situation got even worse. Some economists questioned Alice’s experiences with extreme suspicion. When Alice said she preferred one thing twice as much as another, they demanded proof. They said her experience was not measureable, was merely subjective, and did not belong in rigorous theories. The only thing they could *observe* was her choices, which revealed only the order of preferences; anything more would be too speculative to indulge.

Modern economic theory has insisted on the ordinal concept of utility; that is, only orderings can be observed, and therefore no measurement of utility independent of these orderings has any significance. (Arrow 1983, p. 75)

Another time, Alice shared one of two apples with a hungry friend, pointing out that the friend would enjoy it more than Alice would enjoy eating a second one. Some economists scoffed: It was impossible to compare one person’s utility with another’s. Some even extended this skepticism to all of society, saying the very notion of the common good is fallacious (Riker 1982).

Interpersonal comparison of utilities has no meaning. (Arrow 1951, p. 9)

Alice had no choice. She emptied her mind of proper thoughts, concepts, theories, and reason; she replaced them with spontaneous knowledge and a few probabilities. Alice gave up her natural motivations to seek food, safety, and relationships, and she subsumed everything in one consistent utility function. She lost her sympathy for other people’s pressing needs for food and shelter because she could not compare their utilities to her own.

Little by little, piece by piece, Alice lost her mind. *Homo economicus*, the economic actor, became a utility-maximizing zombie, an empty shell with little thought, no imagination, and arbitrary, unrecognizable motives.

Economic theory has been much preoccupied with this rational fool decked in the glory of his *one* all-purpose preference ordering. (Sen 1977, p. 336, italics original)

Nowadays, behavioral economics has increasingly found that utility zombies do not always match real people’s behavior. So, there is broad consensus that Alice needs at least some of her mind back. But the predominant approach is to add more and more irrationalities and arbitrary preferences to the utility zombie. The problem is that this still leaves *Homo economicus* with few cognitive abilities. A real mind that performs in the real world cannot be made of irrational errors and arbitrary preferences any more than it can be made of unadorned utility maximization (see also Todd & Gigerenzer 2007).

Instead, we need to rediscover the mind of *Homo economicus*. Cognitive science can help view people’s economic thinking from a fresh perspective. Rather than neoclassical economics, it can begin with the ordinary idea that people theorize and learn about the world; they have multiple evolved motives related to health, reproduction, and biological fitness; their motives have different magnitudes; and they can compare different people’s welfare in order to effectively cooperate and form relationships. Cognitive science illuminates these basic mental faculties, including how people theorize about causes, invent tools, seek food and shelter, court and assess mates, care for children, and reason about others’ minds (reviewed in Pinker 1997). Building on this foundation, we can study the intuitive theories that allow people to theorize and learn about economics, like how to bargain with merchants, make a living, save resources for hard times, specialize in a profession, evaluate tax policies, and so on.

Boyer & Petersen’s (B&P’s) target article has made a bold and much-needed move in this direction by proposing some contents of people’s folk economics, especially the different beliefs that shape citizens’ political views about major economic policies.