Experimental Philosophy:

New Light on Historical Assumptions about Psychological Freedoms

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The workings of the human mind have long been a source of mystery and speculation, and have long played a central role in the musings of philosophers. Describing the nature of private thought, Socrates likened it to an internal dialogue with oneself; similarly, Aristotle defined a friend as "another self" to whom you can talk to as though you were thinking to yourself. But the freedom of internal thought -- that its source and cause was nowhere except one's own self and mind -- was never in question among the ancient philosophers; indeed, it was so taken for granted that, historically, the problem of freedom was the last of the great metaphysical questions (being, the soul, eternity, etc.) to become a topic of philosophical inquiry.¹

Fast forward two thousand years and there is Descartes, at the dawn of the Enlightenment, skeptically questioning every belief he held and piece of knowledge he had -- all except one. Although he came, through this exercise, to doubt the reality of everything else about himself and the world he lived in, the one fact he could and did not doubt -- and which then became the bedrock starting place for the rest of his philosophy -- was the Cogito ("I think, therefore I am"): that he had thoughts and, more than that, these thoughts were his and his alone. Precisely because these thoughts belonged to him, they served also as proof of his own existence. Descartes, of course, famously extended the freedom or "ownership" of one's own thought to the products and outcomes of that

¹ See Hannah Arendt, "What is freedom?", in Between Past and Future (1960), New York: Viking.
thought, such as judgments and action (i.e., free will), in his dualistic account of mind and body. The activity of the mind was “free” in that it was not governed by physical laws of causation as was the body, but instead was metaphysical in nature as the seat of the soul.

“I choose, therefore I am”

The philosophical belief in essentially free thought and choice continued into the 20th century. The existentialists, mainly Sartre, who was greatly influenced by his compatriot Descartes, elevated conscious choice processes to be the reason why life has meaning. But Kierkegaard and Nietzsche had also emphasized conscious judgment and decisions as the basis of human freedom; in the post-Enlightenment era in which divine will and intervention was no longer assumed to be the causal force in the world (including our own individual lives), human choice took God’s place in the philosophical cosmos. Sartre, for instance, defined the meaning of a life as the sum total of the conscious choices and decisions made. Thus, philosophers continued to place an individual’s internal psychological processes at the center of metaphysical questions of being and existence. The fact of a person having control and authorship over his or her thoughts and judgments, and their consequences in what the person chooses to do, remained the one bedrock fact on which the rest of the philosophical system was developed and built. Skeptical about everything else, Descartes asserted that “I think, therefore I am”, while Sartre was a bit more specific and asserted that “I choose, therefore I am”.

The veridicality of our sensory processes, and the degree to which we are consciously aware of and in control of our decisions and behavior, are therefore questions
that strike at the heart of the human experience – of such basic and profound questions as
the meaning of existence -- and have done so for thousands of years. But it is only in the
last 100 years or so that science has developed sufficiently to begin to address these
questions empirically, and not solely by logic and reason (or appeals to metaphysical or
religious constructs). And it is really only in the last 20 years that methods and
paradigms have been developed to probe these questions in a systematic and rigorous
manner. What new knowledge has this empirical research has gained for us on these
ancient matters? And how do the answers bear on the fundamental assumptions made by
Descartes, Sartre, and others regarding the human mind?

Can we trust our senses?

Psychology’s answer to Kant came roughly 50 years ago, when Jerome Bruner
and Leo Postman discovered that even sensory experience is influenced and shaped by
human needs and motivational factors. In one classic study, for example, children from
relatively poor families tended to overestimate the sizes of common coins such as
pennies, nickels, and quarters, compared to the judgments of other children. And people
tended to “see” what they expected to see in brief, nearly subliminal flashes, although
that was not what had been presented to them. From over a decade of intensive research
on such phenomena, which came to be known as the “New Look” in perception research,
Bruner and Postman concluded that both one’s previous experience (what one has seen
before) and one’s motivations and needs (what one wants to see) partly determine what a
person does actually see (and hear, smell, etc.), so that our perceptions are not only a
function of what is happening in the outside world.
Since then, research has made it abundantly apparent that these effects of motivation and of prior knowledge or expectancies are even stronger on judgments and behavioral choices than they are on sensory judgments – to take a compelling recent example, judgments of the fairness of the 2000 U.S. presidential election in Florida were (and still are) almost entirely determined by which candidate the individual voted for. The important point made by the New Look research was that even what comes to us apparently “directly” in the form of sensory experience can be shaped and biased by what we expect to see, as well as by what we want to see (or not to see, for that matter) – without our knowledge or awareness of this influence taking place.

Here is another recent example. The “figure-ground” effect is a classic one in perception research and refers to the effect that the background or ‘context’ has on how we experience (‘see’) the figure. This is the basis for many perceptual illusions, in which (for example) we see one line as longer than the other, when they are actually (and verifiably, with a ruler) the identical length. The recent experiments I referred to have shown that basic cultural beliefs influence one’s thinking even down to the basic sensory level where they can affect these figure-ground effects. Specifically, in Japanese culture (and many others) there is an emphasis on not standing out from others; to take one’s cues for how to behave from what others are doing. In American culture (and mainly Western European countries) there is an emphasis on making such choices as an individual, to not “just” go along with the crowd. (To give a quick example of this difference, Americans at a restaurant tend to order something different than those who have already ordered, to avoid seeming like a ‘copycat,’ even if it means foregoing one’s top choice. Japanese on the other hand tend to order the same thing as had the others
before them, to avoid seeming as though they disagree with that choice – again even if that is not the dish they really wanted.)

This cultural difference even impacts on basic sensory experience such as how we see lines and rectangles. For example, in the figure-ground effect, one might be shown, on the left side of a piece of paper, a square with a smaller square inside it. Then, next to this display on the right side of the page, the person is given another, larger square, and asked to redraw the smaller square inside this one as well. Americans tend to draw the smaller square to be the same exact dimensions and size as the one shown in the left-hand diagram. Japanese, on the other hand, tend to draw the small square to be the same proportional size relative to the large square surrounding it. In other words, Americans perceive the small square independently of its context, while Japanese perceive the small square in relation to its context. The cultural phenomenon of experiencing individual objects or events as (or as not) embedded in the current context extends even to how one perceives artificial line drawings.² And, importantly, we are not aware of and thus are not in control of these effects.

A new brain-imaging study by David Heeger of NYU³ has further confirmed that even our visual misperceptions and hallucinations are not necessarily errors of judgment or reasoning on our part but can be due to very early stages of visual analysis; his brain-imaging studies show that activity in the early visual cortex is based on what we think we see rather than what is really out there. Thus, what we know and expect affects visual processing even at this very preliminary and early stage of information processing, so we cannot presume or trust in the veridicality of our senses – we literally cannot believe our

eyes, at least as a source of unbiased truth about the outside world. Our brains have evolved, are designed, are meant to use our past knowledge and experience as a filter and interpreter of the outside world -- and this interpretation begins at the most basic and earliest stages of analysis.

**Do we always choose how we act?**

The events, people, and objects in our current social and physical environment not only shape and influence our decisions and judgments, they also play a role in determining -- without our awareness or choice -- our behavior. Research has shown these effects to be not only powerful, but automatic, in the sense that they occur without our knowledge and without our conscious consent or choice. The extent to which even social behavior -- how each of us behaves towards other people -- is determined by external events and not our own choices is a question that directly relates to the existentialist philosophers’ key assumption that freely made conscious choices determine what we do and thus the meaning of our individual lives.

For example, research on the “chameleon effect” shows that we tend to unconsciously mimic the behavior of those around us – if they cross their arms, yawn, or scratch their nose, we tend to do the same, and without realizing we are doing so.⁴ What we directly perceive in another person’s behavior activates mental representations that help us to understand what they are doing – but that is not all that becomes activated and “primed”. It turns out that human perception and action are organized in the brain much as it is for other social animals such as birds, fish, and antelope, so that this perceptual

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activity is linked directly to representations that govern our own action, increasing the likelihood that we will behave the same way.

But we don’t have to directly perceive (based on sensory information) what others are doing for these same effects to occur. Consider the following experimental demonstration. First, we recreated in the laboratory a not uncommon situation in which one has to wait until someone else is free before getting what one needs from them to continue and finish with what one is doing. In the particular version we constructed, the experimental participant had to ask the experimenter for the next part of the study – he or she knew that when that was completed, the experiment was over and he/she could leave. The only problem was that the experimenter was talking to someone else, and the participant would have to interrupt this conversation in order to ask the experimenter for the next thing to do. Left to their own devices (that is, in the control condition), we found that 40% of the people in this situation interrupted the experimenter’s conversation. That’s the baseline of how people would normally react to the situation we created. However, we “primed” some other participants with words related to “polite”, and another group with words related to “rude”. We did this by having them work on a “language test” prior to encountering the busy experimenter, in which those words were embedded along with many others.

The results were striking: of those in whom we had primed or activated the concept of rudeness, 63% did interrupt the conversation. Of those primed with the concept of politeness, on the other hand, only 18% interrupted. And none of the participants in any condition had any clue that the previous “language test” had

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influenced their subsequent behavior towards the experimenter in any way, even when carefully questioned for any sign of being aware of that potential influence.

[It would be strange, after all, if they had been aware of it – it is hard to imagine our participants saying something like “Oh yes, I didn’t interrupt the conversation even though I wanted to, because I had just read some words to do with politeness just beforehand.” This (rightly) sounds bizarre, precisely because our ideas of the potent causes or reasons for our own behavior certainly do not include such innocuous and trivial ones as the kinds of words (or pictures) to which we’d just happened to have been exposed.]

These effects are actually quite easy to obtain, and they work at the more complex level of social stereotypes as well as single traits. For example, if instead of a few words related to politeness or rudeness, the participant is presented with some related to the stereotype of the elderly (such as wise, thrifty, bingo) as part of the initial “language test”, he or she then walks more slowly down the hall after the study is over, and has poorer memory for the contents of the experimental room. Priming the stereotype of the elderly in this subtle manner causes the person to behave in the ways suggested by that stereotype (i.e., physically slow, and forgetful). Priming the idea of achievement causes people to score higher on verbal tests; priming the stereotype of professors causes them to answer more Trivial Pursuit questions. (This may say something about what the participants think about professors...) One important question is how such lab findings generalize to the real world outside the lab. In many of the studies already done, the researchers tried to make their experimental situation as realistic as possible, ideally so
that participants did not even know that the kind of behavior being measured was part of the study at all (e.g., walking down a hallway while leaving the experimental area).

This has now been established as a real and quite general phenomenon, from which some important conclusions can be drawn. First, a person’s judgments and even behavior can be partly determined merely by the recent activation of mental concepts (especially trait concepts, such as smart, kind, competitive) in some innocuous context. Second, this power of active concepts over our decisions and behavior does not seem to fit our world-view at all, in terms of our understanding of what causes us to think and act the way we do. More than this, there is active disbelief and resistance to the idea when it is raised as a possibility. Which means, naturally, that people will not do anything to watch out for or attempt to control those influences (that they don’t accept as real).

The reality of these findings – that unobtrusively priming a person’s behavioral concepts has a direct causal influence on that person’s actual behavior – has now been well established. The very fact of these effects is of great theoretical importance, because it means that our judgments and even behavior towards others often occurs without our conscious awareness or intent. And if conscious choices are not necessary for us to behave in complex ways towards other people, this argues against the existentialists’ primary emphasis on conscious choice processes as the essential feature of human life. These findings clearly bear on the central philosophical issues and concerns that were described earlier: namely, that we have to be skeptical as well about our degree of personal agency over our thoughts and judgments, and the extent to which we really are the captain of our own ship when it comes to our behavior.
Are there practical implications?

Despite the theoretical and epistemological importance of these research findings, their practical import has yet to be established. This then is the major question that this line of research needs to address. How often do these effects occur in normal daily life? Are we continually buffeted around by the apparently random whims of our environment – the behaviors of other people we happen to witness, and the particular words we’ve just happened to read? Does advertising – which after all intrudes more and more into our private lives every day (email spam, telemarketers, ads on television, billboards, ads enclosed in our credit card statements, as coupons in our magazines, as seemingly half the content of each day’s newspaper) have this kind of unwanted effect on our shopping and major purchase choices, just through priming certain ideas and product names in our minds? Could corporations and governments use this priming technology more directly (say, through subliminal advertising) to shape our purchases and even our votes? Or are we able, somehow, to overcome and control all such unwanted influences for decisions that really matter to us, such as when we vote in elections and when we make a major purchase such as a refrigerator or automobile?

The human race is learning more and more every day about how to control and shape behavior and emotions – take for example the tremendous recent gains made in treating depression and anxiety with such personality and mood altering drugs as Prozac, Ritalin, and Zoloft. These treatments were made possible by advances in our knowledge of the chemical and neurotransmission mechanisms of the brain. Once the mechanisms are known, interventions can be designed to manipulate those mechanisms to produce the desired effect. But control and influence of a person’s behavior and judgments is just as
possible based on other kinds of mechanisms that research discovers – not only chemical mechanisms, but psychological ones such as those described above.

It should give us pause that the psychological mechanisms, compared to the pharmacological variety, are so potentially easily and cheaply manipulated at the mass or group level. Given the surprising power of incidentally activated trait concepts over a person’s judgments and behavior, all one really needs, apparently, is the right word at the right time. Of course, one also needs the public’s continued firm belief that their decisions and behavior cannot be influenced without their knowledge. Such beliefs may well give life its meaning, but prove in the end to be an illusory comfort.