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CONSCIOUSNESS: KNOWING THE UNKNOWABLE

THE AUTHOR OF THE BOOK OF PROVERBS WAS SELECTIVE IN REVEALING what he did not know. “There are three things that are too wonderful for me, yea four that I know not: the way of an eagle in the air; the way of a serpent upon a rock; the way of a ship in the midst of the sea; and the way of a man with a maid” (Proverbs 30:18).

Here I shall pass over the first three of these unknowables, and touch only briefly on the fourth. I want to address another unknowable phenomenon of nature that many philosophers and scientists continue to declare too wonderful for them: *the way of conscious sensation*.

Imagine yourself looking at a bright red wall. The red sensation you are now experiencing is unknowable in two fundamental ways. The first is *privacy*. The sensation is yours alone. No one else can know “what it’s like” for you, just as you could not know what it’s like for anyone else. The second is *explanatory opacity*. There is no known explanation for how this conscious experience can arise from the physics of your brain.

It was John Locke, in his *Essay* of 1690, who first explicitly brought the problem of privacy to scholarly attention.

If the idea that a violet produced in one man’s mind by his eyes were the same that a marigold produces in another man’s, and vice versa ... this could never be known: because one man’s mind could not pass into another man’s

body, to perceive what appearances were produced. ([1690] 1975, §II.xxxii.15)

But Locke was articulating a problem that it hardly requires a great philosopher to recognize. We have probably played with versions of the problem since we were children, raising questions in the playground to tease and annoy our school friends. How do I know you see red like I do? How do I know if you're really in pain? What if your smells are like my sounds? Ha ha, there's no way of knowing!

Ha ha, indeed. But the conundrum also has a worrying side to it. You may well remember how strange and even upsetting it was at first discovery: not *merely* an interesting tease, but potentially a serious challenge to the need to share and understand. If we cannot even tell what seeing red is like for someone else, what *can* we tell?

Imagine. We are walking together in the woods after the rain, dappled sunshine filters through the dripping leaves, a blackbird sings, and the scent of honeysuckle permeates the rich air. It may be that shared moments like this are needed to give meaning to our lives. What then when we realize how little we are truly sharing, that, if truth be told, each of us is merely coloring in the other's consciousness as if it were our own?

Still, what is to be done? Realizing, early on, that the privacy of consciousness is a brute fact about the human condition, most of us as we grew up will have put the problem aside. Sometimes philosophical doubts, however cogent in theory, are hardly worth worrying about in practice. Samuel Johnson famously dismissed the Idealist suggestion that the external world is nothing other than an idea in his own head by kicking a stone and declaring, "I refute it thus." Whatever our first anxieties about the limits to our knowledge, our adult selves will probably want to brush them aside with a confident, plain-man's assertion that, in practice, we know all we need to know.

As it happens, Locke himself unexpectedly pulled back from the brink of his own thought experiment about colors. In a passage, little known even to scholars, that follows the famous one quoted above, he wrote:

I am nevertheless very apt to think that the sensible ideas produced by any object in different men's minds, are indiscernibly alike. For which opinion there might be many reasons offered: but being besides my present business, I shall not trouble my reader with them: but only mind him that the contrary supposition, if it could be proved, is of little use, either for the improvement of our knowledge, or convenience of life. ([1690] 1975, §II.xxxii.15)

There are shades of the mathematician Fermat here ("I have a truly marvelous proof of this proposition which this margin is too narrow to contain.") But it leaves the reader impatient to know just what Locke's reasons actually were. He cannot, presumably, have discovered a logical proof that different people's sensations *have to be* the same. Even Ludwig Wittgenstein, acknowledging the logic of privacy, conceded in the *Philosophical Investigations*:

The essential thing about private experience is really not that each person possesses his own exemplar, but that nobody knows whether other people also have *this* or something else. The assumption would thus be possible—though unverifiable—that one section of mankind has one sensation of red and another section another. (Wittgenstein 1958, Part I, 272)

Even so, if Locke did not have a reason in principle for discounting this possibility, he might perhaps have had a reason *in practice*. And there is indeed a *genetic* reason that's quite compelling. This is the fact that humans are all members of the same biological species, with brains and bodies built of the same components according to an almost identical genetic blueprint. This makes it at least a very reasonable guess that different people's internal experiences are similar. You've never seen another person's liver, but I do not suppose you spend much time worrying whether their liver resembles your kidney.

Although Locke could not have known about genes, he might well have been thinking about species identity on a more Aristotelian level: humans as a conforming biological type. Still, this would hardly seem sufficient grounds to take philosophical speculation off the table. Maybe he was persuaded that a difference between people that is, as Wittgenstein says, “unverifiable” from the outside could only be *a difference that makes no difference*, and so, necessarily of “little use” to us. But if that’s so, I can only say he was underestimating people’s intellectual curiosity and the scope of their counterfactual imagination. Just because we cannot verify, are we forbidden to ask? Unknowable facts about private experience are still facts; and, if there remains any chance that, between one person and another, the facts do not line up, we would be less than human if we did not *wonder* what is actually the case.

Consider the following analogy. There are two individuals, A and B, who each have a private box with a clock in it that they can use to tell the time. Their clocks are identical except for one peculiar feature: namely, that while the hands on A’s clock turn in a clockwise way, the hands of B’s turn counterclockwise. When A and B read their clocks, they agree about what time it is, about the rate time is passing, and so on. So it would seem the direction of rotation is just such “a difference that makes no difference.” But, wait. Suppose A were to think: “I wonder what it’s like to be B watching his clock,” only to realize that he has no way of knowing whether B’s clock rotates like his own or in the opposite direction. “That’s weird, B’s could be clockwise like mine or counterclockwise, and I wouldn’t know!” Now, suppose A were to find this situation challenging. Suppose A were to be *upset* that he does not know this about B, or perhaps *delighted* that B does not know this about him. Then here we would have “a difference that makes no difference,” yet does make a difference precisely because A realizes it makes no difference!

My point is that this is very much how it is with sensations. The unverifiability of sensory experience is nothing if not a challenge to inquire. True, we are all members of the same species. But we are by

no means physiologically identical in every way. We have left-handers and right-handers, curly-haired and straight-haired, and so on. And if we can differ from each other on the outside, it's certainly not impossible we differ on the inside too. In fact, in spite of Locke's objections, we do not *know* that red-green reversal is not already present in the human population at the same rate, say, as left-handedness—meaning there is a one in 10 chance that your husband or your sister is the other way round to you. Suppose you were to become convinced that it was so. Just because you could not know for sure, would you simply not *care*? I do not believe so for a moment.

I admit that, as we noted earlier, you probably would not dwell on it endlessly. The question of color sensations is not something to lose too much sleep over. But let's leave the philosopher's pet example of colors aside, and consider a different modality of sensory experience where privacy really can be a source of confusion and anxiety. We have left-handers and right-handers, but, more to the point, we have *men* and we have *maids*. Sex brings the problem into particularly sharp relief. John Dryden, in a translation of a poem by Lucretius, spelled out the difficulty men and women may have when making love:

They gripe, they squeeze, their humid tongues they dart,
As each would force their way to t'others heart:
In vain they only cruze about the coast,
For bodies cannot pierce, nor be in bodies lost. . . .
All ways they try, successless all they prove,
To cure the secret sore of lingring love.

(Dryden 1684)

The poet W. B. Yeats called these lines “the finest description of sexual intercourse ever written”—precisely because they illustrate just how impossible it is for two humans to share one mind. “The tragedy of sexual intercourse,” Yeats said, “is the perpetual virginity of the soul” (Yeats 1949). In Mel Calman's cartoon, a man who has just

had sex with his wife asks, “How was it for you?” Her withering reply is: “How was what?” (Calman 1997).

Is *this* something not to lose sleep over? As Ovid tells it, the gods Jupiter and Juno got into a furious quarrel over it. Jupiter had claimed that women have much greater pleasure from sex than men do, but Juno maintained the opposite. Finally they decided to resolve the question by consulting the prophet Teiresias, who had lived in both a male and a female body. To Juno’s great annoyance, Teiresias’s judgment went Jupiter’s way: it’s nine times better for women than men.

Here is how William James sums up the uncomfortable truth about how completely consciousness sets us apart as individuals:

Absolute insulation, irreducible pluralism, is the law. Neither contemporaneity, nor proximity in space, nor similarity of quality and content are able to fuse thoughts together which are sundered by this barrier of belonging to different personal minds. The breaches between such thoughts are the most absolute breaches in nature. (1890, 226)

But, now I’ll say it: Thank goodness this is the way it is for us! It can be lonely, yes. It can be frustrating and no doubt inconvenient. But overall I will not call it *tragic*. To the contrary, I believe—and have argued at length in my book, *Soul Dust: The Magic of Consciousness* (Humphrey 2011)—that our virginity, each of us having an inalienable and inviolable mind-space of our own, lies at the very heart of what it means for a human being to have a soul.

The idea that every human individual is equally privileged in this respect has been and remains extraordinarily potent—psychologically, ethically, and politically. I believe it is likely to have arisen within the human community as a direct response to reflecting on the privacy of the conscious mind. And from the beginning it would have transformed human relationships, encouraged new levels of mutual respect, and greatly increased the value each person put on their own

and others' lives. In evolutionary terms, this change of outlook would surely have turned out to be highly adaptive, greatly improving the prospects for survival.

The concept of the soul, as we know it today, is of course a cultural elaboration. But it is premised on biologically guaranteed unknowability. This means unknowability, as such, would have proved to be adaptive. Natural selection would have favored a design of the brain that shuts others out. The privacy of consciousness would have been favored precisely because privacy has *public* consequences of the kind described.

However, for evolutionary theorists there is a worrying catch. We cannot have it both ways. Privacy may indeed have public consequences, but it remains the case that most of the fundamental attributes of sensations really do not. Indeed, the distinctive qualities that make a particular sensation *this kind* of sensation rather than another—red rather than green, say, or visual rather than auditory—remain absolutely hidden. That is just what the privacy guarantees. But this can only mean that *these* properties have had no effect on survival. This means, in turn, that they cannot have evolved to be the properties they are by natural selection.

I may say I resist this conclusion. Like many before me, I've racked my brain to try to work out, in my own case, why for me to experience sensations as having the defining qualities they do could bring me some sort of biological advantage, despite the privacy. And I confess I've drawn a blank. When I look at the red wall, my having a red sensation rather than a green one just does not seem to cut it. Nor does my having a color sensation rather than a pitch sensation, or any other permutation of qualia-properties I might imagine. Yet, if natural selection has not played a part in the evolution of these experiential properties, what has? I can hardly believe that *nothing* has.

So, where should we turn for further answers? Presumably things would look very different if only we had a scientific theory of *how consciousness arises from nonconscious matter in the brain*. "What we need is a transparent theory," the philosopher Dan Lloyd has written,

“One that, once you get it, you see that anything built like *this* will have *this* particular conscious experience” (2003, 16).

If we were to have such a theory, the absolute privacy of sensations would disappear. In fact we could, if we wished, call on technologically sophisticated experts to *deduce* whether someone is having a red or a green sensation, and indeed just what the sensation feels like, by examining the working of his or her brain. True, the fact that experts could see the difference between sensations at the level of the brain does not of course mean that natural selection could do the same. But let’s be patient. Once we’ve tried out the theory, maybe this will become transparent too.

The trouble is, however, that all talk of such a theory may be beside the point, because we’re never going to get one. Try, as we may, to explain how consciousness arises from mere matter, we’re going to run up against the *explanatory opacity* of consciousness.

Two very different reasons are often given for believing that, scientifically, consciousness is a closed book. On the one hand, there are those who argue that any attempt to explain consciousness in material terms is doomed to fail because it will run afoul of “the principle of sufficient causation”: nonconscious matter simply *has not got it in it* to cause consciousness. On the other hand, there are those who argue that, even if consciousness does arise from matter, the explanation of just how it does so will *not be comprehensible* to human beings.

The first objection has been raised again and again, by Descartes, by Leibniz, and by others, through to the present day. Here, for example, is Darwin’s collaborator and nemesis, Alfred Wallace, in 1869:

No physiologist or philosopher has yet ventured to propound an intelligible theory, of how sensation may possibly be a product of [material] organization; while many have declared the passage from matter to mind to be inconceivable ... You cannot have, in the whole, what does not exist in any of the parts. (Wallace 1870, 361)

Wallace followed Descartes in concluding that consciousness must have been added to the mechanism of the human mind as some kind of divine bonus. Other theorists, however, have drawn an even more radical conclusion: that if it is indeed not possible for consciousness to emerge from nonconscious matter, then consciousness must be *inherent in matter to begin with*. That's to say, there can be no such thing as nonconscious matter, any more than there can be mass-less matter.

But where exactly does either of these proposals get us? What makes them scientifically worthless is that, while seeking to bypass a conventional scientific explanation, neither of them comes close to providing an alternative “transparent theory” of the kind Lloyd has called for—one that would allow us to see that anything built like this will have this particular conscious experience. Rather, they simply postulate that consciousness is present wherever it is in fact present. And, in doing so, they leave us none the wiser. As Bertrand Russell once remarked: “The method of ‘postulating’ what we want has many advantages; they are the same as the advantages of theft over honest toil” (Russell 1919, 71).

So, let's turn to the other reason given for explanatory opacity: the suggestion that, even if mere matter does cause consciousness, we humans will always be too dumb to understand exactly how. This objection too goes back a long way, at least to Immanuel Kant. The philosopher/poet Goethe made it almost a moral principle that we should recognize our human limitations:

There is in nature an accessible and inaccessible.... He who does not know it torments himself, perhaps his life long, about the inaccessible, without ever coming near the truth. But he who knows it and is wise ... must at last confess that many things can only be approached to a certain degree, and that nature has ever something problematical in reserve, which man's faculties are insufficient to fathom. (Goethe 1827)

More recently, Noam Chomsky has appealed to evolutionary constraints on “cognitive reach”:

If humans are part of the natural world, not supernatural beings, then human intelligence has its scope and limits, determined by initial design. We can thus anticipate that certain questions will not fall within their cognitive reach, just as rats are unable to run mazes with numerical properties, lacking the appropriate concepts. Such questions, we might call “mysteries-for-humans,” just as some questions pose “mysteries-for-rats.” (1995, 2)

And, in this same tradition is the cosmologist Martin Rees:

We need to remain open-minded to the possibility that some fundamental truths about nature could be too complex for unaided human brains to grasp fully. Perhaps we’ll never understand the mystery of our brains themselves—how atoms can assemble into grey matter that can become aware of itself. (2018)

Note that statements like these, about the limits of our capacity to understand, are never based on *evidence*. Nobody points to other examples where human understanding has proved to be inadequate, or explains *what’s to stop us* getting ever closer to the scientific truth. As Darwin commented: “It is those who know little, and not those who know much, who so positively assert this or that problem will never be solved by science” (1890, I, 3).

But, in any case, I think the argument that cognitive reach is limited by the structure of the human brain is deeply flawed. I find it extraordinary that Chomsky, of all people, would have failed to appreciate the fundamental difference between the ways rats understand the world and the ways humans do. Humans, unlike rats, have an intellectual culture and have been improving their tools of

thought for generations. A teenage schoolgirl today can understand things that would have baffled Socrates, not because she's born with a better brain but because she's been better educated in contemporary concepts. She knows, for example, how to calculate using the number zero or how to do a Google search.

What's more, with humans, understanding has become increasingly *distributed*. As Hilary Putnam observed, "Meaning just ain't in the head" (1975, 227) and, by the same token, understanding is not either. The point has been well made by Kwame Anthony Appiah:

The cognitive division of labor in advanced societies provides each of us with epistemological resources far greater than any that would fit between our ears. We can talk casually about entangled electrons, the Bantu migration, gram-negative diplococci, and Petrarchan sonnets because there are communities of researchers who know about these things ... the social organization of inquiry makes all the difference. (Appiah 2019, 41)

Over 250 years ago, the freethinker Denis Diderot spoke up for what science, as a communal enterprise, can hope to achieve.

Experimental philosophy knows neither what will come nor what will not come out of its labours; but it works on without relaxing. The philosophy based merely on reasoning, on the contrary, weighs possibilities, makes a pronouncement and stops short. It boldly said: "light cannot be decomposed": experimental philosophy heard, and held its tongue in its presence for whole centuries; then suddenly it produced the prism, and said, "light can be decomposed." (1754, XXIII, 46)

Diderot's moral is the reverse of Goethe's: we should never give up simply because a problem is hard, even as hard as the hard problem of consciousness. There may be a prism just around the corner.

A prism, or something better still? To solve the problem of consciousness, I don't suppose we are waiting on the invention of some fancy piece of apparatus, such as a new brain-scanner. What we require instead is a new rational instrument, an idea that provides a fresh perspective on the problem.

So, to round off this paper, let me make a suggestion out of left field. I think that in our earlier discussion we may already have stumbled, inadvertently, on the very argument we need.

We saw that there seemed to be a contradiction between the privacy of sensations and the presumption that sensory quality has evolved by natural selection.

The qualities of sensations are private and unknowable.

Things that are private and unknowable cannot evolve by natural selection.

But the only way the qualities of sensations can have evolved is by natural selection.

But, instead of despairing, as I did above, let's take this to its logical conclusion.

Once upon a time, sensations must have been public and knowable.

At first this sounds a very strange idea—which may be precisely why we should welcome it. What if “public and knowable” corresponds to the historical reality? What if this was indeed how sensations began? I think we can use this idea to bolster an evolutionary account of consciousness that I have been recommending for the past 30 years (Humphrey 1992).

I've argued that sensations actually have their origin in a primitive organism's reflex motor responses to sensory stimulation—a form of bodily expression that I've called “sentition.” From the beginning, sentition *enacted* what the stimulation meant to the organism. This prepared the way for the organism to acquire the capacity to *represent* this meaning by the simple expedient of reading from an efference copy of the command signals.

These responses, to begin with, were out in the open, and, as such they were indeed shaped by selection. However, eventually, in

the course of evolution, the ancient responses became internalized or “privatized,” so that they no longer resulted in overt behavior. That’s to say, they became *virtual* bodily responses contained within the brain that no longer appeared on the body surface. Yet, all along, the organism could continue to read the virtual responses so as to get a picture of what the sensory stimulation meant to it, responses that, although they were no longer affected by selection, continued to bear the stamp of their earlier evolutionary history.

The upshot has been that, even today, this is where sensations come from. Thus, when you experience, for example, what it’s like to look at a red wall, you are reading your *vestigial bodily response to the light at your eye*, your *redding*, so as to represent just what’s happening to you and how you feel about it. The redness you experience is, as it were, a skeuomorphic feature, a hangover from a time when the response was public and designed to be fit for purpose. We might say the sensation has retained its historical shape in much the same way as has the email icon of a paper envelope on your computer screen.

Too wonderful? Plain wonderful: the known unknown.

REFERENCES

- Appiah, Kwame Anthony. 2019. “Dialectics of Enlightenment.” *New York Review of Books*. May 9.
- Calman, Mel. 1997. *A Little Light Worrying: The Best of Mel Calman*. London: Methuen.
- Chomsky, Noam. 1995. “Language and Nature.” *Mind* 104, 1–61.
- Darwin, Charles. 1890. *The Descent of Man*. London: Murray.
- Diderot, Denis. [1754] 1982. *On the Interpretation of Nature*. In *The Irresistible Diderot*. Edited and translated by J. H. Mason. London: Quartet.
- Dryden, John. 1684. *Translation of Book IV of Lucretius*. Quoted in Christopher Ricks. 1976. *Keats and Embarrassment*. Oxford, UK: Oxford U. Press.
- Goethe, J. W. von. 1827. *Conversations with Eckermann* [11 April 1827]. Translated by John Oxenford. Cambridge U. Press.
- Humphrey, Nicholas. 1992. *A History of the Mind*. New York: Simon and Schuster.

- . 2011. *Soul Dust: The Magic of Consciousness*. Princeton, NJ: Princeton U. Press.
- James, William. 1890. *Principles of Psychology*. London: MacMillan and Co.
- Lloyd, Dan. 2003. *Radiant Cool*. Cambridge, MA: Bradford Books.
- Locke, John. [1690] 1975. *An Essay Concerning Human Understanding*. Edited by P. Nidditch, book II, chap. XXXII, sec. 15. Oxford, UK: Clarendon Press.
- Putnam, Hilary. 1975. "The Meaning of Meaning." In *Mind, Language, and Reality: Philosophical Papers, Volume 2*. Cambridge, UK: Cambridge U. Press.
- Rees, Martin. 2018. *Prospect Magazine*. November.
- Russell, Bertrand. 1919. *Introduction to Mathematical Philosophy*. London: Allen and Unwin.
- Wallace, Alfred Russel. 1870. "The Limits of Natural Selection as Applied to Man." In *Contributions to the Theory of Natural Selection. A Series of Essays*. London: MacMillan and Co.
- Wittgenstein, Ludwig. 1958. *Philosophical Investigations*. Translated by G. E. M. Anscombe. Oxford, UK: Blackwell.
- Yeats, William Butler. 1949. Quoted in Christopher Ricks, 1976. *Keats and Embarrassment*. Oxford, UK: Oxford U. Press.