

WHY THERE IS NO SOLUTION TO THE MIND-BODY PROBLEM

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The Hard Problem

There is still little recognition in society of what the Mind-Body Problem even is. Non-philosophers who have heard of it may find it confusing, dismiss it as a brain-twister irrelevant to daily life, or assimilate it wrongly to some familiar category—as a scientific question, for example. Professional philosophers have so thoroughly dissected it that they deal only with some specialized aspect. Like the blind men with the elephant, they cannot agree on the identity of the beast. It seems that the nature of the problem divides thought itself about the nature of the problem.

In 1995, David Chalmers took the philosophy community to task in his watershed paper, “Facing Up to the Problem of Consciousness”. There he clearly distinguished between accounting for *behavior* associated with mind, from what he termed the “really hard problem” of accounting for subjective *experience*. By this definition, of course, there can be no *scientific* resolution, for the simple reason that science deals only with objective description, not with subjective experience. Behavior—of the organism or its nerve cells—can be studied and explained in physical terms. But conscious experience—and the perspective from which it takes place—must remain a mystery to an outlook that only looks outward toward physical phenomena. The domains in physics where this outlook inevitably confronts the role and state of the observer are famously problematic: relativity, quantum theory, and cosmology.

Reflexive Consciousness

The Problem is the utter disjunction between subject and object, between first- and third-person points of view. At root is the awareness that the contents of consciousness have an ambivalent status. They may refer either to something in the world or to some mental or perceptual artifact. For instance, I may point to a tree in my yard. But I may also (figuratively) point to the tree that appears in my dream, as an element of my personal experience. I may think of its greenness as a pure “quality” detached from the appearance of any particular tree. I may then begin to wonder about my *perception* of the tree as something separate from the real tree itself. This ambiguity, between real things in the objective world and subjective experiences *of* them, presupposes awareness of being aware. The mind-matter split is an inevitable concomitant of the self-reference involved in subjectivity. It cannot be healed by a science that is not accordingly self-referential and in which subjectivity plays no role.

Then, can philosophy find a solution? The disjunction between subject and object leads naturally to two broad approaches: either to try to reduce one to the other (monism) or to accept them both equal terms (dualism). Of these approaches, reductive strategies are traditionally divided: either mind *or* matter—subject *or* object—is considered to be primary and real, its complement at best derivative, at worst illusory. One focuses on the role of the world in determining experience, the other on the role of the self. Neither strategy can prove itself right to the exclusion of the other, because experience and

thought always involve an interaction of the self and the world, not one to the exclusion of the other.

Dualism typically skirts the Problem: either by accepting the disjunction as fundamental or by reifying mind as an ontological counterpart of matter (substance dualism). An alternative approach would be to seek a higher ground that focuses on the true nature and difficulty of the Problem itself. This might constitute a solution of sorts—as close, perhaps, as the self-conscious intellect can come to understanding the dilemma posed by its own existence.

Traditionally, the Materialist believes in the physical world as fundamental, the ground for reductive explanations. The Materialist points to the scene itself, so to speak, thereby ignoring the frame that consciousness places around it. The view is treated as a transparent window upon an objective world beyond. In contrast, the Idealist points to the frame or window, to consciousness as primary, treating the view as a painting, movie, display, or other construction.

Simply by temperament one may find oneself in sympathy with either conception. The split between mind and matter divides thought about the split itself! For the Idealist, the territory is but an illusory projection of the map. For the Materialist, the map is but an artifact, sketched from the real territory. Either premise, however, leads to its own demise. If the territory is an illusion, where do maps come in and why should they be taken seriously? On the other hand, unless one is a naïve realist, the territory can only be known *through* the map; for knowledge and experience are mediated by the nervous system and body. In this regard, the Mind-Body Problem resembles the classic paradoxes involving self-reference. What *makes* paradox is the inability to get above its logical level—to transcend or synthesize its apparent contradictions. This is the situation confronting the mind conscious of its own subjectivity. As such, the Problem may ultimately lie too far upstream even of philosophy.

In either an Idealist world or a Materialist world there would *be* no Mind-Body Problem. But reflexive consciousness has cast us into mixed terrain. There is no way to determine what the world “really” looks like when no one is looking (or what its real properties are when no one is experimenting)—unsullied, so to speak, by the dynamics of mind. Experience and world cannot be hung up side by side for comparison. Rather, everything we know of the world comes to us *in* experience of some form, while all content of experience in some way refers to the world. Dwelling in the map, one knows nothing absolutely sure concerning the territory it allegedly maps. And, dwelling strictly in the territory tells us nothing of the color coding (or other symbolism) of the map, nor why there should be a map in the first place. To paraphrase Leibniz, no amount of climbing about in the machinery of the brain gives any hint of what the color green should be like as an experience, or why there should exist any such thing as experience or consciousness at all.

Closing the Gap

At one time, the senses were considered open portals to the world, through which the self looked out as through a window, or which it felt as through a close-fitting glove. But such an attitude simply regresses the problem: then the experience of the inner self needs to be explained, as though it had its own body and eyes—an indefinite regression of observers within observers. The notion of an inner subject or perceiving soul cannot *explain* perception; it merely stands in for the very process to be explained.

Of course, we have come a long way since then. Modern theories of “emergence,” relying on computation and information processing in complex adaptive systems, seem to promise an understanding of mental functioning within scientific frameworks, where mind is studied as a self-regulating representational system. But there is still something missing in this picture, which remains a third-person description. Chalmers’ point is that, even following such metaphors, one never quite closes the gap with subjective experience, the first person. It is never quite clear how bustling neurons produce the intrinsic greenness of the color green. I propose that what is necessary, if not sufficient for this closure, is a grasp of (first) the gratuitous nature of intentionality, and of (second) the specific context of embodiment—namely, participation in an evolutionary history. Combined, I believe these offer an insight into how the gap is filled by the mind itself. And this, I believe, may be as close as one can come to solving the Problem.

Phenomenal qualities that emerge in experience are like the intelligible meanings that emerge through the babble of spoken syllables or the squiggles on a page. For example, viewed this way, pain can be understood to have its specific experiential quality because of its particular significance to the organism as information about the state of its tissues. As William James observed, pain can only “hurt,” since it is a recognition of tissue damage. Sugar must taste “sweet” because sweetness is a cognitive judgment about the nutritive value of sugar molecules. Ultimately, one would like to understand why the sky looks blue, trees green, and blood red—that is, why we have the subjective experiences we do in response to light of a certain wavelengths. Like the meaning of pain or pleasure, this sort of explanation must go beyond the functioning of causal systems, beyond third-person description, to include the role of semantic systems as well, from their own point of view as agents in the world. It includes the evolutionary advantages of particular *intentional* connections—which ride on causal connections—evolved within the extended system of brain, body, and world. The very nature of intentionality takes us beyond the science of passive matter and artificially isolated systems.

Whatever the details, such explanation can only be based on the reasonable assumption that cognition is neither entirely determined by a world of external causes, nor entirely by the organism's internal symbolic connections and conventions. It is rather an interaction in which organism and environment meet to contribute to the creation of experience, meaning, and behavior. Cognition is a function of the particular internal programs of the organism as well as particular structures of the environment. It is necessarily a biased and incomplete account of the world, whose “true” face—that is, independent of the organism’s participation—cannot be known or even meaningfully conceived. (This much we owe to Kant.) One has no direct access to the territory, and one cannot strictly speak of the accuracy of the map but only of its adequacy as a tool of survival and reproductive success. We are hopelessly immersed in the map, and only able to perceive the territory through its mediation. On the other hand, the map itself can only be perceived as part of the territory. The notion of ‘sense data’, for example, was doomed because “raw” (unmapped) territory is an oxymoron. For, any concept of the territory is but another content of experience, and therefore but a feature of the map, which must be located somewhere in the territory...and so on! If such tail chasing makes the head spin, it is because our brains are big enough to think in circles. Yet, brains are also pragmatic. Undaunted by illogic, mind leaps ahead to an experience of a real external world, the

projection of its inner map, creating meaning from the babble of the senses. The Mind-Body Problem is a challenge to the intellect, but not to the brain as an organ of survival.

The Meaning of Meaning

Plato's allegory of the cave is not a bad simile for the epistemic situation of the brain sealed inside the skull. Descartes described it in terms of a clever demon who could systematically falsify the information coming into a brain through the senses, creating the airtight illusion of a body and a material world. Still reeling from these early paranoias, we continue fascinated by brains in vats, virtual realities, and simulated worlds.

Descartes, moreover, was probably the first to pursue a physical explanation of consciousness. By means of the coordinate system that bears his name, he discovered that geometrical figures could be expressed as equations, and vice-versa. The equivalence of geometry with algebra, of visible shapes with abstract formal operations was possibly the clue that illumined Descartes' search for a mechanist explanation of mind. Just as geometrical figures may be generated by algebraic operations, so may the shapes and colors we experience in vision, for instance, be generated by symbolic operations, carried out by neural events in the brain. The intuition of Descartes the mathematician was to see the relationship between brain and mind as like that between algebra and geometry.

As in any language—whether of numbers or of words—one finds in the meaning of each symbol nothing intrinsically necessary, only whatever has been posited. The redness of the color red, the hurtfulness of pain, the spaciousness of space, the solidity of objects, the very realness and externality of the world—all these are *conventions* like the meanings of words. Cognitive processing is an internal symbolic system, with a syntax, which serves a semantic relationship to an outside world. It resembles a formal system that has been interpreted (in the mathematical sense)—one that has been pressed into representational service. Other interpretations might be possible for a given system, and other systems could map the same territory. Indeed, to compensate for damage, the brain can rewire itself to maintain the appropriate relationship to external reality.

The suchness and realness of experience is not only driven by the world, but derives also from the mind's embrace of specific cognitive premises, in much the way that logical conclusions derive from accepted axioms. It is fiction based on fact. The *primacy* of phenomenal experience, to which Descartes had pointed, expresses the mind's irreducible embrace of such premises, its "animal faith" in its own cognitive axioms. What underwrites this faith is the fact that organisms committed to such axioms survive to reproduce. In that sense, the brain is realistic, the language reflects reality. The world is just as it is in our experience for the same reason that we are here as viable organisms, by virtue of being just what we are. Our being is tautological.

Descartes sets out first to reduce physics to the mathematics of space. For him, extension is the only irreducible property of matter; and through the coordinate system it is equivalent to number. Physical events in the brain could thus embody logical or numerical operations, which could then represent spatial relations—and, hence, external reality. The mechanisms that served as Descartes' model for the infrastructure of such operations were unsophisticated: clocks, windmills, programmed waterworks, etc. But even lacking modern concepts of information processing, Descartes understood that these were devices capable of what we now call computation or mental processing. He grasped

that the brain is the central organ of perception, and that the afferent nerves relay a pattern of *signals* to be interpreted, not a *copy* of the world.

First and Third Persons

The MBP is the dilemma of accounting for (first-person) experience in (third-person) terms of material process: the relationship between mind and brain/body. Yet, even when ‘mind’ is considered as a system of operations upon ‘information’—which refers to differences or structure in the world—this is no less a third-person perspective than strictly causal descriptions. The mystery is still that there is such a thing as the first-person point of view at all.

While everyday cognition involves a first-person perspective, like science it refers to structures, differences, or invariances in the world. If one then takes these things as fundamental, they then appear mysteriously “filled in” with “qualities” such as particular colors, smells, auditory tones, etc. If structure, difference, information, or other such abstractions are considered the bare bones of reality, one is naturally led to wonder how the mind fleshes out this skeleton with the qualities characteristic of phenomenal experience. However, concepts of ‘information’ and ‘structure’, far from being raw data for sensation, are intellectual constructs abstracted from sensory experience in the first place. Structure or information is no more what remains, when the experiential world is stripped of its qualities, than the outlines in a coloring book are what remain when colors and shadings are removed from a photograph. An outline must be deliberately drawn in, structure must be intentionally imposed. Differences may be objectively real, in the sense that their detection is invariant among observers, but *how* they are registered and categorized may vary with the observer.

From a third-person point of view, it may be convenient to consider ‘information’ as a neutral raw material of mental processing. Yet, such a starting point is at best a convention. What is considered information already involves cognitive judgments on the part of the observer. Even in the first person, one never experiences such a thing as a pure perception, sensation, or sense datum, free from cognitive judgment. Rather, perception or sensation inherently involves cognitive judgment, which can be studied from the inside or the outside. The qualities immanent in experience are not epiphenomenal. They are cognitive discriminations made in the first-person.

In looking at a source of green light, for instance, one does not detect a vibration of such and such frequency, analyze it, and then decide to add or project into that a superfluous greenness. Rather, the experience of greenness *is* the brain/body’s estimation of visible frequency—from its own point of view. Similarly, to perceive the musical tone B-flat is simply the brain’s own estimation of sound frequency. Visual and auditory sensations are not *in addition* to the knowledge they convey: they *are* that knowledge. The irreducibly self-luminous quality of greenness is not a separate property of the object seen or of light, but an act of the intending subject whereby it represents to itself “subjectively” properties (frequency, among others) that might be detected and represented “objectively” with laboratory instrumentation. It is a proposition the organism expresses to itself in the language of the senses, using its own sensory apparatus, and representing not the world per se but the organism’s *relation* to the world.

In the case of sound, the experience of tone emerges as the wave fronts impinge too rapidly to be meaningful individually. What is the sound of one wave lapping? It is

certainly not a *tone*, which is the global effect of a series of wave fronts. The case of color is more complex, since color is distinguished on the basis of the relative intensities of differing frequencies, for which there are separate sets of receptors. Nevertheless, color experience, like color discrimination, maps relations in the world that are relevant to the organism, involving the organism's priorities. The experience of color and of auditory tone respond to structures or textures in the world, which alternatively may be described scientifically.

For sound, the tone *heard* and the frequency *measured* by instrument yield the same information, though in different cognitive domains. Hence the organization of the perception of sound into octaves. Vibrations of frequencies x , $2x$, $3x$, etc., are perceived as *qualitatively* similar, the "same" note in different registers. The ear responds to a quantitative congruency through its experience of qualitative similarity. An oscilloscope displays the same fact: that a frequency and its multiples are congruent. The human eye perceives but one octave of the electromagnetic spectrum. If the eye were sensitive to a wider range of frequencies, it appears that perceived colors should repeat in a way somehow similar to perceived octaves of sound; for, the farther ends of the humanly visible spectrum (violet and red) begin to resemble each other qualitatively.¹ In both examples this is due to the similar response, via the receiving sense organs, to wavelengths that are multiples of each other.

Coloring it Real

What applies to visual and auditory sensation applies more generally to all experience. The projective mental capacity to "fill in" qualities is universal, and hence transparent, so that only in anomalous circumstances do we notice it at all. These circumstances include completion effects, habituation, adaptations of various sorts, and other phenomena of projection studied in laboratory. Tones, colors, smells and other qualities may indeed be understood as completion or projection effects. If they appear to superfluously fill in some skeletal structure of information, it is simply because such structure was abstracted from phenomenal experience in the first place. The quality of greenness, for instance, is "filled in" between individual wave fronts of light in the way that the quality of being fifty years old is filled in between one's fiftieth and fifty-first birthdays. That is, by convention or fiat—simply by the brain asserting it to be so. Such "fiat" is a matter of intentional—as opposed to causal—connections. The mystery of how structure or information, mapped in neurophysiological processes, can result in experiences of color, tone, pain, or other qualities, is no more (or less!) mysterious than the process by which sound waves can carry meaning as words, or algebraic symbols gain numerical significance.

The brain itself normally fills the gap between mind and body, between subject and object. Though just how it does may be problematic to philosophers, this is because, like scientists, they tend to look for third-person explanations. Certainly, there is no hope for an answer that does not consider the intentionality of the organism and the evolutionary context through which its internal language gains semantic reference. But, even granting that, the appearance of a first-person perspective remains mysterious,

¹ This raises the intriguing question of how (in this hypothetical situation) the brain would represent to itself the qualitative difference of light frequencies in different "octaves."

simply because what it is *like* to be such a system cannot be answered in third-person terms. The Problem is that we nevertheless expect it to. This is because, for good evolutionary reason, we evolved to experience the world in third-person terms, as objective and external rather than as a private dream.

In concluding, I would like to point out that the projective nature of mind extends to the very sense of the world normally experienced as “out there” and as “real.” As with other qualities, externality and objective reality are cognitive judgments the organism makes, which serve an obvious purpose. A creature that did not take its environment seriously would not long survive. The experience of externality is a first-person account to itself of the (human) creature’s ability and need to navigate real space. The sense of reality attached to the external world reflects the creature’s acknowledgment that the world is a place of impending danger and opportunity, full of genuine consequence for its well-being. These may seem trivial statements, but the point is that ‘externality’ and ‘reality’ are not only objective properties of the world, as presented in a third-person cognitive domain, but are simultaneously subjective *qualities* perceived in a first-person domain. It is this very ambiguity that gives rise to the Mind-Body Problem in the first place. Lament it we may, but it’s what makes us human.