Pragmatist Neurophilosophy

American Philosophy and the Brain

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Is Experience Subjective or Objective, or Both, or Neither?

John R. Shook

Questioning experience's subjectivity or objectivity sounds familiar, yet somehow outdated. Scientific psychology (and sociology) no longer rely on the concept of "experience" for much more than gesturing at what they really theorize about, or tentatively labeling preliminary issues for introductory textbooks. To the extent that the sciences have broken up the vague notion of experience into matters more amenable to separate inquiry, "experience" is receding in academic significance, returning to its folk psychological status where people converse about their mundane concerns. To the social sciences and humanities, things like conduct, conversations, and texts are plenty enough to study. It may be natural enough to talk about one's subjective experiences, but looking for the objective place of "experience" within nature may be quite unnatural. Is experience compatible with nature, much less an integral aspect to nature?

If we cannot answer affirmatively in light of our best science, then loose talk about "naturalizing" experience or consciousness, or establishing an "empirical naturalism," is just hot air. Pragmatists have typically thought not only that experience is just as "natural" as anything science already studies, but also that features and modes of experience somehow reveal crucial traits of nature itself.[1] Pragmatism takes the sciences the most seriously of any philosophy, yet science is supposedly concerned only for understanding nature's ways objectively, irrespective of whether a subject happens to be gazing on. Only inquiring subjects do science through their experience, it can be admitted, but the status of scientific knowledge about reality must not depend on whether any subject also confirms that reality in their personal experience. Philosophy has already asked and answered the question of what happens when subjective experience stands as the final judge of reality. (It is not anything like science and bears little resemblance to naturalism.) No, experience is endlessly interesting to us, but that is not because it possesses its own objective natural reality. After all, if it

could be so independent, we would not so much care for it. We care because we experience, and we experience because we care.

In ordinary ways of talking, saying "that was an experience!" has emotional significance, perhaps as a heartfelt sign of appreciation or a cathartic outburst of relief. Promising an uplifting experience, or an amazing experience, or a comforting experience, similarly signals expectations about what will be encountered in the course of living. People have those encounters and undergo those experiences, individually or collectively, in the natural course of their days. (If you do not think people can share an experience, try paying more attention while attending a music concert or while gathering around the television to witness breaking news.) Experiences are expected to at least have affective influences on people, with greater (or lesser) intensity and impact, and some sort of lingering consequence. Perhaps sensory impacts never registered by anything in the nervous system, or transmitted up the nerves but filtered out by preliminary cortical processing, or retained but then ignored as "noise" and unused by higher cognitive processing, could somehow still count as "experience" in some sense that strains its plain meaning. But we must not start off by supposing that "experience" has a sharp meaning—consult the *Oxford English Dictionary*'s lengthy entry about "experience" to disabuse yourself of that notion. But the basic sense of "experience" is multi-sided and often vague, for good reason—its multi-purpose utility for plain talk by plain folk depends on such versatility. The social sciences and humanities deftly navigate that versatility, inquiring into peoples' experiences just by noting how they conduct themselves, how they describe what's been happening to them, how they learn from engagements with goings-on around them, and how they recount their stories about themselves, others, and wider events. What people have been doing, undergoing, learning, and narrating can largely exhaust the significance of "experience" for most inquiries into what it is like to be part of humanity.

The sciences are obligated to eventually inquire into anything and everything of potential relevance. Experience itself could not stay unexplored by the life sciences and the natural sciences forever. Psychologists (and cognitive scientists etc.) would not ordinarily say that their research has nothing to do with experience—quite the contrary. Very little holds more interest for us than the dealings of experience. Yet "experience" is no longer treated by the sciences, if it ever was, as a natural kind possessing its own inherent characters to be passively tracked and described for its own sake. If experience has been treated anywhere as a "natural kind" possessing its own inherent mode of being, that place is philosophy. The cognitive and brain sciences say that they

study experience, but they craft, as they must, selected and specialized aspects to what has been considered experience. Some things that once were called "experiences" have been set aside by the mind/brain sciences as unreal, having no status at all, instead being granted a demoted status as illusions. Where is that odd experience, so worrisome to medieval people, of feeling impotent from demonic possession?[2] (The social sciences can make their inquiries into what people used to *say* about feeling impotent, but that singular experience itself has "vanished" as unreal because demons never existed.) These cognitive and brain sciences have also discerned fields of sentient "awareness" operating "behind" or "below" conscious experience, so that the meaning of "experience" has undergone growth by addition, as well as subtraction.[3] The reasonable theory that sufficiently complex animals possess some level of sentient "awareness," and perhaps an inner field of phenomenal consciousness as well, has further extended the meaning of "experience" beyond its folk psychological sense.

Discriminable features to the living processes of organic life usually deserve their own labels or even scientific terms in the course of close study. So much has been discriminated and aggregated about the nervous processes of animal life that continuing to expect any single quality, feature, function, or structure to continue to be found in every instance of an "experience" is no longer a mark of scientific psychology or sociology, or biology in general. But taking note of this development is just another way of pointing out how scientific psychology departs from folk psychology and ordinary language. Experience, by itself, may be a poor guide to what is really going on with experiences.

Perhaps what brings together what is going on with experience, if not any inner unity or evident essence, has more to do with the life forms having experiences and those organisms' ecological habitats. There's a reason why we expect experiences to at least be closely associated with animals. Experience should not be nonbiological, in any radical sense, and the biological always has a home, a habitat. Failure to situate experience and sentience where life is ongoing can inspire speculations about unnatural habitats. Philosophers from Anaxagoras and Plato down to Descartes and Kant have not left those metaphysical options unexplored. What must the sciences do? Explaining the sentient animation of complex animals can be treated as an empirical question instead, as Aristotle and Darwin suggest. At this point, where science takes a divergent path from metaphysics, four very puzzling issues about experience emerge.

First, if experience is (supposedly) the place from which all empirical evidence could arise, how can there be "evidence" of experience? Trying to discover evidence about experience may be either uninformatively circular, or

uselessly paradoxical. After all, any evidence must already have been within experience to be informative, so one cannot produce satisfactory "evidence" without simply producing some experiences directly. Some phases of experience can serve as pointers to other phases (by functioning as signs, for example); but there is no "evidence" about experience that is not just more experience. Put another way, it is paradoxical to think that there is something that serves as evidence of experience that is not just comprised entirely of experience itself. (Try to relieve someone's thirst with only "evidence" of water but not any water.)

Second, even if a distinction could be intelligibly widened between experience and some evidence of experience, that gap cannot exceed the bounds of experience itself. Everywhere our sentience goes, we always find some experience ongoing for us. Experience may not be reducible without remainder to sentience (some extraordinary experiences or "subconscious" experiences may lack sentience), but sentience without any experience in the broad sense would not be happening. Intelligible evidence will never be available to detect where "experience" stops at its necessary limits, for we cannot "see" the other side of the boundary line, if there even is one. Only our capacities for experiencing time, motion, directionality, and perspective, along with recallable and comparable episodic memory, permit us to fully realize that our experience is indeed bounded. A being that somehow experienced without temporal or spatial displacement, and never grasped direction and perspective, would take its field of experience as unbounded, and it would probably never acquire the concept of "experience," either. (As a thought experiment, do not think about a deity, but just consider a newborn baby.) Furthermore, we acquire concepts of individual bounded objects in our dynamic reaches of experience, but no amount of experience will ever display a "perspective" to experience as a whole. Where would you have to "stand" to gain a second perspective on all of experience as a whole? We speak of gaining perspective from experience, but we do not actually think that experience itself is the thing we are acquiring perspectives on—we are only using an elliptical way to talk about different specific experiences, or perspectives on a prominent matter within experience.

Third, even if we could formulate a method to assign natural boundaries to "experience," and hence manage to "localize" stretches of experience within some wider realm that is not just more experience, the genuine sciences are forbidden from relying on unnatural entities, for either evidentiary or explanatory roles. Why would a delimited amount of "experience" be unnatural? Our experience is characterized by noticeable directionality and perspective, so time and space are automatically involved, but that is hardly the same thing as knowing that

any delimited stretch of experience itself possesses its own definite temporal and spatial dimensions from moment to moment. Science is not so atomistic anymore, so let us not demand that a "piece" of experience has a narrowly specifiable location in space and time. All the same, it may be a category mistake to treat a stretch of experience as an "object," an "event," or even a fluctuating "field" amenable to scientific study. If you (rightly) expect that quantum mechanics cannot say where an electron's momentum is precisely located at a particular moment, then you should appreciate how psychology would not appreciate being expected to say much about the location, dimension, energy, and trajectory of a stretch of experience, much less any of its other physical properties (e.g. tell me the mass of your experience of the soccer match). For all practical purposes, no science will be experimenting directly with some "units" of experience or any aggregates of experiences, since those "things" are not really things. Ultimately, it is very hard to understand how some delimited stretch of experience could count as observably objective evidence for anyone but the experiencer, or how stretches of experience could be responsibly postulated as theoretical "entities" since they lack minimally natural properties.

Fourth, even if we could scientifically manipulate experiences as respectably "natural" things for confirmable experimental results, one more feature to experience in general is its teleological character. Common sense says, and cognitive science confirms, that what experiences an organism is having are largely a function of what the organism happens to be seeking. We only contingently find what we began to seek, but what we eventually find had something to do with our pursuits. This is valid in both a mundane sense and a psychological sense. For common sense, while we sometimes feel that events come to find us (especially unwanted events), honest reflection tells us that we also had to end up there to receive the "gift." Wisdom also says that gifts show up right in front of us from time to time, yet we do not recognize many of them because we are minding other things. As for psychology, it has been established almost as a truism that what we notice has more to do with what our cognition was guiding us toward at the time than what is simply impacting our bodies to be aware of. In a crucial sense, what is most interesting about experience is not how it happens when external things affect the body now, but instead why experiences exist only for some future end. It is impossible to fully account for experience without postulating something about the future for which ongoing experience mainly exists and is primarily attempting to become. The ends somehow "produce" the causes. But this no longer sounds very scientific. Postulating future (not yet existing) ends and attributing to them causal powers

in the present, or, going even further, postulating real guiding powers already existing in the future to manipulate present materials toward future ends, is a manner of "explanation" deemed unacceptable and untouchable by empirical science. Setting aside as completely illegitimate either sort of "teleological" or "design" type of explanation has been widely regarded as necessary for policing the boundaries of acceptable empirical inquiry and hence science itself.[4]

The boundary between unscientific metaphysics and empirical science may be thick and fuzzy, but these four deep puzzles about experience show why it must be thrown into the arms of one, or the other. Unless all four puzzles can be resolved in favor of permitting the biological and cognitive sciences to effectively inquire into "experience," science must never speak of it with any ontological seriousness, nor can it ever be "naturalized" as genuinely real. Experience would then be left to the plain meanings of folk psychology and ordinary language, where the social sciences and humanities can do their proper work studying people, not "experience." Experience would also continue to have other friends too. The imaginative musings of natural theology and the untethered speculations of pure metaphysics are always happy to welcome experience to an unnatural home. Alliances between anthropology and theology, say, or sociology and metaphysical dualism, as another example, are theoretically possible, and various options have been explored already. Empirical science can turn its back on experience, but it then loses intellectual authority to pass decrees against the misuse of experience.

Pragmatism can get entangled with these "unnatural" alliances. Let anthropology accept without disqualification the religious experiences and mythic narratives taken as real by devout peoples, and a natural theology can then "discern" the work of the divine in the human realm. The resulting pragmatic confirmation for the divine (how could something so humanly functional be just unreal?) would not be contradicted by those "harder" sciences—the life, cognitive, and natural sciences—which have nothing to say about experience. Similarly, so as those harder sciences stay silent, an alliance between sociology and metaphysics can describe phases of experience as noetically transcendent, reaching depths (heights?) of unnatural realities through the "right" sorts of social training for the practicing faithful. Scientistic societies do not encourage these experiential voyages, so their disdain toward the transcendent is both predictable and irrelevant to the experimental methods "confirming" the reality of transcendent realms. Both sorts of alliances have received endorsements from numerous nineteenth- and twentieth-century intellectuals who rely on vaguely or explicitly "pragmatic" methodologies. In fact, some of these figures, whether

they regarded themselves primarily as theologians, philosophers, psychologists, sociologists, anthropologists, or just humanists, have also claimed alliances with naturalism.[5] Not all pragmatic naturalisms are the same, evidently. If confident reliance on experiential methods of wide utility for humanity is sufficient for affirming naturalism, which I for one deny, then both of these anthropological and sociological pragmatisms will expand the realm of the "natural" into transcendent places where naturalism was never designed to go. Naturalism was never supposed to be about taking as genuinely real what people happen to traditionally or experientially prefer to believe is real. The question comes down to, what sort of "science" shall control naturalism?

Naturally enough, both of these alliances are well aware of the inevitable resistance from scientific naturalism, which only accepts as scientific the theorizing backed by exploratory experiments into what nature is doing, and not just what people are saying. That is why both alliances put great effort into diminishing the authority of the harder sciences, by depicting those sciences as not just practical but optional methodologies, meriting no top-ranking right to decide what is exclusively real over other useful modes of human experiencing. Lacking any right to dictate what is real, what people talk about returns to a level playing field. On that field of equality, the "subjective" experience of an individual could be just as "valid" as anything "objective" asserted by a scientific field, or at least immune from invalidation by any scientific worldview. Or, perhaps the collective experiences of a society agreed on a description of reality could be as "objectively" valid as, or at least not disprovable by, anything asserted by a scientific tribe mired in their own group-think "subjectivity." If the harder sciences want to reply how they are not so impressed by any and all human "experiencing," then they had better back up that judgment with good reasons. If the harder sciences are going to manage to say something intelligible about experience, and especially about what counts as more or less informative experiences, then they had better be able to experimentally theorize about experience, at least on their own terms. So the struggle comes down to this: how can "experience" be somehow "placed" within nature so that it can be subjected to exploratory experiments by some of the "harder" sciences? And here we have returned again to the four urgent puzzles about experience.

Having observed what is at stake for both pragmatism and naturalism, we can set down *the "postulate" of "experiential naturalism*:" "experience" is amenable to scientific inquiry if those four puzzles are resolvable in a jointly coherent way. That resolution will set the parameters for guaranteeing that experience itself is naturalizable in some thinly provisional sense as a legitimate

"object" of scientific inquiry. Now, experience may turn out upon thorough multidisciplinary examination to be natural only in some thinly derivative or epiphenomenal sense, akin to the way that "shadows" are natural enough events but lack an ontological status in their own right, or the way that "wetness" is natural only in an epiphenomenal way by lacking its own efficacious powers, since properties of water molecules are actually at work. Both shadows and wetness can be experimentally investigated by the sciences because the four deep puzzles about "locating" them in nature are resolvable, and evidence about them is elicitable. If the postulate of experiential naturalism is workable and scientific inquiry into experience proceeds, we may further expect that the manner of resolving those four puzzles about nature's "place" for experience is already providing fundamental information crucial to the next great theoretical problem about experience: since experience seems to be naturally existing, how and why does it exist?

We may predict that great progress can be made toward confirming what can be labeled as *the "postulate" of "naturalistic empiricism:"* the results of scientific inquiry into experience will yield an impressive confirmation for the independent ontological theory that experience specifically has an ecological home with sentient organism–environment situations. Experiences turn out to be right where they naïvely seem to be: where sentient organisms are engaging their local environs. In other words, experience intuitively appears as directly encompassing the external objects and events we can and do interact with, and naturalistic empiricism confirms how this is no hallucination or mass illusion. We are not forced to accept any skeptical notion that experience is mostly or entirely deceptive, or any metaphysical notion that we can only experience some "inner" or "transcendent" realm.

Finally, confirmation for naturalistic empiricism in turn permits confidence in *the "postulate" of "pragmatic naturalism*:" our ordinary methods of intelligently exploring our environment typically yield good evidence about natural events, and after suitable refinement and extension, accumulated evidence can methodically yield reliable knowledge about reality's ways. No speculative philosophical work is needed to ponder whether "experience" ever accurately "mirrors" the external world, nor is any epistemological theorizing needed for adding a priori assurances that experiential evidence carries enough "truthfulness" to in turn justify theorizing about the world. Pragmatist philosophy of science does have to explain how sophisticated experimental inquiries can justify the credibility awarded to the amazing theoretical discoveries of modern science, but that explanation will only display continuities with our ordinary

empirical methods rather than any dramatic chasms. Pragmatic naturalism is therefore in a soundly scientific position to adjudicate those cultural struggles over anthropology–theology alliances or the sociology–metaphysics alliances. Pragmatic naturalism balances the judgments of the social and life sciences concerning what seems real in experience with the authority of the natural sciences on what actually can be experienced. (Classical pragmatism, for its own part, never encouraged such rankings, nor the "unity of science" movement in philosophy.) All sciences must have workable alliances with each other, and renounce other rival alliances. Integrating, without subjugating, all of the sciences in a single worldview is the ultimate ontological aim of pragmatic naturalism, with natural theology and transcendent metaphysics reasonably excluded as lacking any grip on reality.

Grand philosophical strategies must humbly wait upon the provisional "naturalization" of experience. That naturalization rests on satisfactorily resolving the four puzzles. For our modest purposes here, we shall proceed through the four puzzles in reverse order, from the most specific to the most general. This procedure is scientifically warranted, since what the cognitive and life sciences can say about experience is piecemeal but concrete.

The fourth puzzle noted how experience is highly teleological: its biological status is one of purposefulness, in a double sense. What is experienced has mostly to do with what needs to be experienced by the organism in the course of its activities, and experience itself in some sense gets created and designed in service for the goals of those activities. Not only are the contents of experience featured for attaining goals, experience itself as a whole is created "by design" for guiding the organic processes attaining those goals. Even our "passive" and "subconscious" awareness of so much affecting us is proactively filtered and purposefully re-processed before rising to any level of conscious awareness, much less due attention. In short, not only does what we are doing largely control what we *can* attend to, our behaviors are controlling what we *do* attend to, and hence what we think is really happening around us.[6]

Our cognitive systems are primarily sensitive to only what they habitually take to be most relevant to the ongoing behaviors, including alarming shocks and distracting interruptions. Incoming information about what is happening is blended together with pre-set anticipations of what should be happening (what those behaviors are supposed to be accomplishing), so that blended information can be mostly directed toward ongoing feedback loops—including "feed-forward" loops—for dynamic motor control at the subconscious level. What also gets passed along toward conscious awareness consists only of

heavily blended, edited, redacted, and strongly exaggerated versions of just the most relevant matters before us. (That moment-by-moment "updating" creates the difference between "focus" and "fringe," and also gets manifested as what Dennett has described as the "multiple drafts" feature to consciousness.)[7]

Our cognitive processes literally create what we attend to and monitor, as we move our bodies around, enact our purposes, and engage with our environments. That is the point of enlarged nervous systems and bulbous brains—primitive fish developed them and surface animals relied on them, as habitats grew ever more complex and surprising. Many animal species took the evolutionary path growing their cognitive capacities. An incremental improvement in cognition turned a bit more of the surroundings into the smarter animal's "environs" (whatever can be relevant to behaviors). That enlarged dimensionality to the environs brought more contingent instabilities, calling for additional expanded cognitive capacities, which further enlarged the environs of possibilities, and so forth. There are natural limits, of course. Each species' evolution usually reaches a metabolic equilibrium, unable to grow larger brains due to constraints on energy consumption. A species typically remains in its environmental niche, and hence its environs stays the same, until further speciation (or extinction) occurs. Primates successfully managing quite dynamic environs in Africa due to changing environmental circumstances grew quite large brains, and a few *Homo* species took advantage of those brains to dramatically complicate their social environs as well, sparking a further "brains race" that produced our species.[8] Our species not only has an incredibly wide ecological "environs" that people can navigate, but we also have to think about our social "emplacement" as well.[9]

The point to this evolutionary tale is that the experienced environs for an organism is not identical to its entire environment. Brain cognition teleologically creates informative experiences primarily about what should be encountered on a moment-to-moment basis, rather than statically registering everything impacting the organism that just happens to mechanically occur. We can now suggest a resolution to the fourth puzzle. The fourth puzzle contrasts the teleological nature of experience—what "is" in experience is mostly about what "should" be—against the scientific demand that teleological explanations shall be excluded from methodological consideration. It appears to be impossible to account for experience biologically without postulating something about the future for which ongoing experience mainly exists and is primarily attempting to become. Are we really talking about the future ends somehow producing the present causes?

Fortunately, the sketch of a cognitive account of experience sketched here

does not involve a role for some actual "existing" future. Nothing in the future has to "exist," much less be psychically detectible or magically efficacious on the present. Experience is biologically created for the sake of the future in a vaguely anticipated sense, but not for any specific "existent" future which must exist in some sense. All brain cognition needs to do is habitually function to anticipate particular patterns (and deviations from those patterns) of detectible consequences that result from ongoing behaviors. Those cognitions habitually function that way because those patterns have been typically detected in the past, not because cognition somehow knows how they will occur in the future. Anticipation is not prescience, predestination, or providence. Cognition is not sneaking a peek into the future, noting what shall be the case, and then adjusting nervous processes to re-direct conduct. The only efficacious relationships to all this cognition are acceptably scientific ones from the present toward the future. Ongoing experience helps create the near future, at least future situations within and nearby the organism. But this is just common sense. Cognition simply takes advantages of sensory modalities attuned to pre-anticipated sensory results from behavior in order to quickly process them for modulating ongoing motor activity directed toward some envisioned goal (like relieving thirst, eluding a predator, and so on). That continually reactive-and-adaptive process is primarily affective and emotional, rather than purely intellectual. When present in awareness, this forward-directed "attending to something" constitutes what can be labeled as "intentionality."[10]

Resolving the fourth puzzle justifies a good measure of credibility for "empiricist naturalism," which experience will prove to be amenable to scientific inquiry. Can the third puzzle be resolved now? That puzzles questioned whether any delimited stretch of experience itself possesses its own definite temporal and spatial dimensions from moment to moment. If not, then no science will be experimenting directly with any units of experience or any aggregates of experiences, since those "things" are not really things. If so, then experience can be assigned some spatial and temporal dimensions, not of its own apart and away from nature, but within nature itself. (Again, if the "dimensions" to experience never coincide with nature's, then experience might only have a transcendentally metaphysical reality but surely not one amenable to direct scientific inquiry.) To resolve this puzzle, some intelligible sense must be given to the notion of an experience possessing some assignable temporal and spatial dimensions within nature, so that a science can know where it is and how to interact with it. What do we know about "where" and "when" experience exists?

Experience can be a proper subset of the environment, since the cognitive sciences confirm that it must be subject to three constraints. First, the experienced environs is only a selected portion of the whole environment—the environment is always larger than the range of experience because the sensitivity of organic sensory modalities (hearing, seeing, smelling, etc.) has natural limitations. Second, the experienced environs at any given time has a focal area where sensory intensity maximizes due to physical proximity and hence mechanical efficacy. We see things best when they are nearer (but not too near). We taste things best when the tongue gets a thorough opportunity. We hear things best at close range. We smell things best when our noses can sample large amounts of air passing by. But this quantitative sense of "closer" is already dependent on our qualitative appreciation for intensity, not the other way around (a baby is not judging the distance of its rattle toy first, before estimating the loudness of its rattle). Third, we learn in our infancy that moving our bodies correlates well with adjusting the intensity of sensations, and also with the coordination of multiple senses agreeing about nearby objects (that rattler is loud, round, red, reachable, and lickable). We learn the notion of "here"—where sensations are most intense—as opposed to "there," where things are most interesting. Our experience therefore always has two "focal points:" the place where I am (which I can move around) and where interesting things are (which have multiple perspectives). Brain cognition accomplishes this all, designing ongoing experience to select out what in the environment shall be present, and intensely interesting in the moment, for the organism.

Because of the way that experience has those two focal places, one "here" and the other "there," the "subject" (me) and the "object" (the object of attention) are cognized through organic nervous processes so that both are within the environment and the environs. (It must be strenuously asserted that this convenient labeling of one focal point as "me" is not the same as the separate, and false, claim that any experience whatsoever is subjectively experienced by a unified self, an ego, an "I," or anything like a self-conscious center. What it is like to be a mouse includes one focal point where the mouse is, and the mouse's cognition tracks where it is, but there is nothing like a "subjective me" or "I" for that mouse.) This simultaneous presence within both environment and environs is easily proven to be the case. First, the experienced "me" is simultaneously within both the environs and the environment because a finite body that I call "me" occupies the "here" place, which, so far as I or anyone else can tell, is continually part of the environment and also within other peoples' environs (when they are near me). If this "subject" was not part of the environment and

hence exempt from physical constraints and laws, and unreliably detectible in other peoples' environs, then "my" experience would be profoundly different from what it actually is. (This thought experiment might be good for imagining what being a ghost would be like.) Second, the experienced "object" is simultaneously within the environment and my environs because (1) if it was only in the environment but not in my environs then I would not experience it, but we are only here speaking of experienced objects; and (2) if it was only in my environs but not in the environment then nothing else in the environment could directly causally effect it, since things in the environment can presumably only causally affect matters in their physical proximity.

Situation (2) does not rule out the possibility that I can experience some things only in my environs but not really in the environment; it only rules out the possibility that absolutely everything in experience is only in my environs but never in my environment. The difference between an object in *both* my environment and my environs, and an object *only* in my environs, is easily discriminable. I can first check whether other objects which are securely in my environment can directly make any change to this curious "object." If so, then it is an external thing too. If none of them can do so, then I can check whether I can, by moving my body, cause a change to it or arouse a different perspective on it. If so, then it is oddly "close" to me or within my body but no hallucination. Only after exhausting those circumstances do I start to judge that I am experiencing something having nothing to do with my environment at the moment but only my inner states (like a perceptual malfunction or a cognitive error arousing a hallucination or a delusion). Things really in my environs/environment do not display all of their causal efficacies, traits, features, and so forth all at once—it is the real things that are only experienced as real partially and perspectivally, and it is precisely the unreal (only in experience) things that have uniform and non-perspectival features. Returning to the main point, if my experience really consisted solely of my created environs and never my external environment, then I would assume that all of reality consisted only of what I experience, which has been philosophically labeled as "solipsism." In summary, I am neither a ghost nor a solipsist.

Our brains are active architects of designed experience. That sounds like experience cannot be the same thing as the environment, even if it in some sense "recreates" the environment. Quite the opposite is the case, as they are ontologically one, although the experienced environs is always a smaller portion of the environment. An experienced environs is part of the environment the

way that an ocean wave *is* part of the ocean, and not like the way that the movie studio's constructed set of a battleship's bridge "is" a part of a battleship.

Let us first deal with the claim that the experienced environs is always a smaller portion of the environment. We know this for two reasons.

First, from experience we learn that more environment is beyond the current environs because every time we move to check, more environment emerges into experience, letting us realize that the environs has a "horizon" of finitude, even if we cannot in one sitting simultaneously enjoy an environs and also perceive that environs from the other "side" of the boundary at the horizon. There are always "incoming" environmental matters causing eruptions of events and causing objects to change and move within our environs.

Second, on the imagined hypothesis that our environment is always absolutely identical to the environs we perceive, we would not possess our conception of the causal powers of objects. Suppose I see a squirrel come into view outside my window. Not even imagining that it "came" from beyond my view (for, by hypothesis, I cannot think anything really exists there), I must either accept its spontaneous creation or credit something happening within view for causing the squirrel to abruptly exist, but I cannot credit the squirrel with its own powers of animation while not in view. Suppose I next see tree branches outside my closed window, but not the entire tree, and those branches are moving in an irregular fashion. Unable to think that there is more "tree" beyond my view and unable to think about "air" beyond my view, I cannot credit anything invisible with causal efficacy making the branches move. If I had a conception of causality, it would be an extraordinarily magical one, where the wildest correlations can constitute "causation." However, we large-brained primates do not use that thin notion of causation (if it is even worthy of calling "causation"), but instead we regard it as cognitive error. We have a much richer and refined understanding of causation and the causal powers of objects, precisely because we never think that our environs exhaust the environment. Indeed, animals as "lowly" as fishes and crustaceans probably "get" that difference at some minimally sentient level. Furthermore, even lowly animals enjoy that overlap between their environs and their environment. It is not a question of cognitive firepower. Once cognition rises to the level of taking advantage of the detectible difference between environs and environment, ever-smarter animals continue to rely on it, and so do we. We can even remember the many noticeable differences between the ever-wider environment and our delimited environs thanks to our short-term and long-term memories. On this second point, we know that objects having their own stable causal powers can enter our environs and cause events within our environs.

Having established that the environs is always "smaller" than our environment—yet matters going on in the wider environment continually arrive into the environs and causally affect matters in the environs—the main issue remaining for the third puzzle is the question of ontological identity. The claim made here by empiricist naturalism is that our environs simply is our environment, taken in partially rather than wholly. That is to say, for example, when an object naturally existing in the physical environment enters an organism's environs, there is no secondary ghostly "duplicate" or phantasm of that object that actually arises in that environs—the object itself is experienced. There has always been two primary objections made against that identity thesis: one metaphysical, and one scientific.

First, it is metaphysically objected that the natural object cannot be identical with the experienced object, on the grounds that two things A and B can be the same singular thing only if every feature/trait/power/localization/etc. of A is the same as those of B. Put another way, if there is anything different between A and B at a moment in time, besides perspectival/relational properties, then A cannot be identical with B (readers may apply their favored version of the traditional principle of identity of indiscernibles). Applying this point to the claim that the experienced object in the environs is identical with the real object in the environment, this claim is reduced to the view that the experienced object must possess all of the real object's intrinsic properties. Unfortunately for empiricist naturalism, this metaphysical reasoning judges, it cannot claim that this is true. Objects as experienced rarely display all of their real properties at a glance while within view in experience. Therefore, empiricist naturalism is false, according to this metaphysics. What happens to appear within experience, it cannot be ontologically identified with any real object existing in the environment. Experienced objects can be "of" the natural world but never "in" the natural world. So says metaphysics.

How can empiricist naturalism reply? The logical answer is obvious: the principle of identity of indiscernibles is being misused. Empiricist naturalism holds that it is the real things that are only experienced as real partially and perspectivally, and it is precisely the unreal (only in experience) things that have uniform and non-perspectival features. Applying the principle correctly, empiricist naturalism judges that the real object in experience possesses its own additional properties, over and above any available as experienced, in order to explain how the object passes into, and out of, the environs of experience without any catastrophic change or any ghostly double emanating from it. The metaphysical argument fallaciously substituted one claim for another.

Empiricist naturalism does not deny that *the experienced object* must possess all of the real object's intrinsic properties, and it is not also committed to the (false) view that *the object as experienced* must possess all of the real object's intrinsic properties. Therefore, this metaphysical argument fails to show that the experienced object cannot be identical to the real object in the environment.

Second, there is a scientific objection, proceeding from empiricist naturalism's view that experience is dynamically created by the bio-chemical processes of the nervous system's cognitions. If the experienced object really exists in the environment, and also in the environs as experienced (they are not two ontologically distinct things), then the organic cognitions within an organism are creating external objects in the environment. Could it really be that the house I see across the street is supposedly created moment-by-moment by my own cognitions? Science will never find that theory remotely plausible. Even metaphysics and theology would hesitate. If I were a solipsist with miraculous causal powers, perhaps that notion could become plausible, or perhaps I am Bishop Berkeley's God. However, if empiricist naturalism is contrary to that divine solipsism, then it must stop claiming that experience is creating external real objects from moment to moment. Metaphysics could take this opportunity to re-suggest that cognition is simply creating a ghostly "double" of aspects to external objects, with some causal input due to impacts on the senses from the (never experienced) external affairs.[11]

It does no good for empiricist naturalism to bitterly complain that this metaphysical suggestion leaves the external environment in a transcendental condition, or that this metaphysics cannot explain what "input" would specifically arrive, or how it could "impact" us, from that mysterious realm. Empiricist naturalism is even more ridiculous if it must affirm that cognitions within us must create the objects outside us—that the "me" is entirely responsible for the "object." Empiricist naturalism itself claims that the "me" and the "object" are separate matters within environs/experience, but that must be illusory since the object is thoroughly dependent on the "me" in some deeper way. In fact, since the "brain" is doing the cognizing yet this brain is itself an "object" that people can observe (with effort), then the brain itself is created by ... cognition? Cognitive science itself collapses, since it cannot be true that nervous systems are doing the cognitions, so there must be transcendental cognitions first miraculously creating nervous systems, which then somehow create experiences, which finally(!) create external worlds. This all seems like a Rube Goldberg contraption, even for a transcendental deity.

All the work undertaken to make empiricist naturalism plausible has

collapsed. We have reached the point of the second puzzle: what is evidence, and what is experience? The very distinction has collapsed. All that is left is a metaphysical distinction between evidence/experience and something transcendentally beyond all possible experience. We can still say that we possess concepts about individually-bounded objects within our dynamic reaches of experience. But no amount of experience will ever display a "perspective" to experience as a whole. You'd have to "stand" with the transcendental to gain a second perspective on all of experience as a whole in order to really explain it.

Before resigning ourselves to the transcendent one way or the other, a preliminary premise put into use in preceding paragraphs should be re-examined. Empiricist naturalism holds that the organic cognitions within an organism are creating external objects in the environment. That sounds bizarre, but it must be interpreted rightly in light of another crucial view of empiricist naturalism: only the real things (not the entirely experiential things) are experienced *as* real partially and perspectivally. Assemble these points and think them through together: organic cognitions are creating experienced things partially and perspectivally. Now set aside the metaphysical complaint yet again, that those experienced things cannot be ontologically identical with objects in the environment. What is actually experienced is those environing things, partially and perspectivally. We have reached the claim, which empiricist naturalism must make, that cognition is involved with environing things displaying real (but partial and perspectival) features, and these features would not really be features of those objects unless some cognitive processes were involved.

We have reinvented the affordance-capacity distinction theorized by J. J. Gibson.[12] A feature of an object is an affordance if it is creatively cognized in the course of an organism's capacity to interact with that object. The affordance is a stable feature of the object where it can be repeatedly and reliably cognized as such in the course of the organism's successful engagements with it. Those repetitive engagements make the affordance a feature of the object—unless those engagements were repeatable and successful, so the organism's cognitions learned to adequately anticipate an object's affordance, no affordance would arise. Different sensory modalities are connected to different sorts of affordances, and many affordances are the result of two coordinated modalities. Coordinated sensory modalities especially permit us to figure out when an affordance will function adequately, or perhaps inadequately. For example, I know that the hammer can be used to strike that nail, but if I notice that the hammer head has come loose from the handle, I would not expect that affordance anymore. Furthermore, according to empiricist naturalism, affordances

never exhaust an object's real properties and powers. A real thing is always regarded as possessing its own causal efficacies while beyond experience, or while within experience. This is also easily confirmable through our experiences interacting with objects in novel ways to discover new affordances. Only cognitively guided interactions with objects yield discoveries of novel affordances, as we learn how to do original things with objects. If we instead supposed that the number of affordances to an object were forever fixed, or that an object's affordances could be created by sheer cognition without any interactions, we would never learn how to discover novel affordances to objects. Yet we surely do this, with immense satisfaction.

The way that objects have affordances is highly consistent not only with the demand that cognition participates in the establishment of objects' features, but also with the expectation that cognitive experiences of objects are teleological in nature. Because affordances are always paired with cognitive capacities, and those capacities guide ongoing bodily activity toward some goal, then the experienced affordances are *meaningfully* emphasized in experience. Put another way, there is purpose behind the way that the relevant affordances useful for ongoing activities are focally intensified in the organism's environs. Not that neuronal subsystems or entire cortical modules have purposes! No, all that is meant is that there is real purpose behind what gets emphasized in the environs and what does not: the organism's own purposes. The "subject"—the purposeful "me"—is responsible for the featured affordances of the "object" that are attentively experienced and used from moment to moment. It is this precise point which exposes representationalism as inadequate, since these meaningful matters in the environs cannot exist without the purposive organism, yet those meanings exist in the natural environs and cannot be discovered anywhere within the organism's cognitions or subjective awareness. The habitat of meanings is right where pragmatists have claimed it was all along, to the astonishment of dualist and subjectivist philosophers. Neither meanings, information, nor content is "in the head."[13] Cognition is also monitoring the "background" against which the attended object stands out but only for potentially disruptive or alarming shocks or patterns. That explains why the "fringe" background of broader experience feels far less intense and meaningful and gets entirely ignored during moments of deep concentration. Alternatively, if one can suspend all immediate purposes, cognition can relax the foreground–background distinction, so that one can have the feeling that nothing in experience is meaningful or that everything is equally meaningful (however one wishes to describe it).

The second puzzle can now be solved: there is no sharp ontological dichotomy

between what is evidence and what is experience, but there is a real difference between focal matters of meaningful significance and background matters of near-meaninglessness. The sciences can therefore judge the approximate dimensions and focal points to a stretch of an organism's environs/experience by experimentally detecting what the organism is capable of finding meaningful, from a high level of intensity to a background level of bare sensitivity. This procedure would be impossible unless one or more affordances are accessible simultaneously by both the experimenter and the organism. Blowing a whistle in the vicinity of a dog will typically elicit some behavioral reaction, but blowing the whistle in the vicinity of a spider may never do so. Our immense array of affordances, including machine-enhanced affordances (we can be sensitive to a machine's sensitivities to natural goings-on) permit us to discern much of the range of an organism's experience/environs if we immerse ourselves into its "world" and manipulate its features. Remaining behaviors lacking any discernible affordances have to be attributed by abductive theorizing to undetectable natural features, but good theorizing can often suggest reasonable and confirmable answers. (Animal behaviors that turned out to be sensitive to tiny changes in magnetic fields took a long time to understand, for example.)

Cognitive and brain sciences do indirectly manipulate and experiment with delimited stretches of experience, of course, because sentient organisms are available for interactions. You do not need any fancy equipment, in fact: enter my visual and auditory ranges and ask me to shake your hand. When I then shake your hand, you might be thinking that you have successfully manipulated a stretch of experience other than yours (e.g. one of mine as well), even though you lack a solid idea about the real means (the "mechanics" involved with the causation) of doing that, and you are not situated exactly where I am to enjoy the exact same range of experience. Still, you can access some direct evidence for your success, because your experience shaking my hand does partially overlap in limited perspectival ways with my experience shaking your hand. I can know this, because we shook each other's hand. This happened because you had to regard my hand as a set of affordances just the way I do, and I had to regard your hand as a set of affordances just the way you do. Joint action on a prompting like that takes plenty of cognitive preparation and guidance—both of us already have to regard our hands in terms of ready affordances for grasping. Although the entire set of properties to my hand would not be in your environs, enough of its affordances will be attended to in your experience to guarantee that we are both experiencing the same hand, and you will simply take for granted that the rest of the hand's features are pretty much the same for both of us as well.

What will never be in my environs is your experience of the "internal" qualities of your hand; here, only abductive analogy lends reasonable clues, as I presume that your experience of what it like to feel your own hand is pretty much like mine with regard to my hand. As far as "external" affordances are concerned, the more we can coordinate our actions together in the same environment, the more we think (rightly) that our environs overlap to a greater and greater extent. Nevertheless, we retain our ability to distinguish our respective ranges of experiences.

The first puzzle now admits a resolution. Anything that serves as informative "evidence" about experience is just composed of more experience, it is true. One cannot produce satisfactory "evidence" without simply producing some experiences. This can appear to obstruct the possibility that I can gain evidence of your experience. For example, I can show you things on the table in front of us, which in some sense are "in" my experience. But if you demand that I quit showing you things in my experience and instead show you my experience of those things, I must either gesture at all of the things on the table again, or I must fall silent in failure. However, the evidence required to show how to experience what someone else is experiencing need not be the same as that person's entire experience. Similarly, the evidence required to show that another's range of experience is experimentally manipulable need not be entirely the same experience as what is being manipulated. Only affordances overlapping within environs are required, not any complete overlap to the entirety of the experience inquired into. There is no call for producing something to serve as evidence of experience that is not more experience, so this puzzle is side-stepped. For scientific inquiry into experience to commence, relevant evidence only has to coincide with a partial and perspectival portion of that experience.

My experience of the affordances of your hand shaking mine serves as evidence that I am modifying your experience of your hand in specifiable ways. The scientist's experience of slightly vibrating a spider's web at one string to make the spider scurry in the direction of that string serves as evidence that the scientist is modifying the spider's environs and (unconscious) experience in specifiable ways. Where the environs of a spider is located, and what the environs of a spider is (roughly) like, can be discerned experimentally to some degree. We will not know too much about what it is like to be a spider, but we can discover a little bit about what it is like to be in that spider's environs, which is not that unlike guessing at what it is like to be that spider.[14] The greater the cognitive capacities to an animal, the better we can be at gaining ideas about its environs. People who share their homes with cats often wonder what could

possibly be going on in a cat's mind sometimes. But long, shared experience with a cat does reveal a great deal about what a cat takes to be in its environs (and what it ignores). The cat's experience will not be in our experience in all its inner qualitative splendor, but limited phases and ranges of its experience into its environs are accessible to us with long practice and due attention. Furthermore, because cat cognition naturally generates its experienced environs, which is an entirely natural process, the cat's experience is part of the natural world. Yes, there is something like what it is to be a cat, and it is not metaphysically locked away from the natural world. Neither is your experience, nor mine.

Having offered reasonably scientifically informed resolutions to the four puzzles about experience, we can defend *the postulate of* "*naturalistic empiricism*:" scientific inquiry into experience is yielding an impressive confirmation for the ontologically minimalist theory that experience specifically has an ecological home with sentient organism–environment situations. Experiences turn out to be right where they naïvely seem to be, where sentient organisms are engaging their local environs, without any resort to metaphysical speculations or postulated transcendentalisms.

The ultimate goal on this line of thought remains the postulate of "pragmatic naturalism:" our ordinary methods of intelligently exploring our environment typically yield good evidence about natural events, and after suitable refinement and extension, accumulated evidence can methodically yield reliable knowledge about reality's ways. According to pragmatic naturalism, the most reliable knowledge about reality is yielded by the experimental learning acquired though probing investigations into our experienced environment (directly or instrumentally), which requires the continual expansion of our explored environs.

Where do the social sciences stand? The social sciences do inquire into human–environs relationships and matters within the social world. The social world looms large for these fields, where the conduct and conversations of ordinary people are typically about that social environs, because that's where people can get things done with other people. The phenomenon of "social affordances" has been noticed but studied piecemeal and classified as other sorts of things: symbolic meanings of groups, social facts, public values, civic morals, and so on. Accounts that people relate about what is going on within their social environs are, reasonably enough, helpful for understanding how they experience that social environs and how they conduct themselves within it. The social environs is naturally real just like everything else that biologically cognitive humans do, but that does not mean that everything that people talk about is real just in the manner as they describe it.

Earlier I brought up the example of demonic influences. People talk about demons a great deal in some societies. Since the biological and natural sciences fail to confirm the existence of anything behaving the way that alleged demons do, then it follows that there are no demons and no one is experiencing what it is like to be infected by a demon. There are no real entities in the environment possessing the affordances of demons. However, there are phenomena within demon-infested societies which do display the social affordances permitting demonic powers to operate. The social sciences are in an excellent position to understand what it means to conduct oneself within a certain social environs which includes demonic powers capable of having relationships with humans. However, there will not be any anthropological or sociological inquiry into demons, but only into social environs where people talk with each other about demons. That is because no one, neither the social scientists nor the demon-believers themselves, undertake anything like experimental inquiries into demonic affordances to reliably confirm their predicted interactions with humans. Instead, "confirmations" of demonic influences by the most devout practitioners notoriously consist of routine perceptual and cognitive errors, confirmation biases, and placebo effects, to which we are all susceptible. The "demonic" affordances turn out to consist entirely of the deliberate manipulation of social affordances for sustaining "belief" by those unable or uninterested in starting intelligent inquiry, which usually includes ardent practitioners who sincerely believe too. It is unnecessary to be reminded that societies themselves take responsibility for classifying personal mental disorders, for the habitat of disturbed social cognition is also where sound social cognition lives, within societies themselves, as the viewpoint taken here is trying to assert.[15]

Social scientists must be overruled if some of them demand that demons be tolerated as somehow just as environmentally real as anything studied by the other sciences. That overruling is justified, not because any science or set of sciences has superior status over the rest, but rather because science comes first where effective reality is concerned, and those social scientists have no scientific inquiries into demons. People sincerely believing in demons are quite real and they must not be told that their sincere experiences are not real, but due perspective must not be abandoned. After all, any person's experienced environs is just a partial and perspectival portion of the whole surrounding environment, and anyone could be terribly ignorant about what is actually responsible for arousing one's cognitive capacities to shape their experiences the way that they do. Real matters out in the environment could be largely responsible, but cognitions make their contributions most firmly when a great deal is at stake,

and there are many urgent matters in the social environs. People see many real things, but what they are really seeing has its own proper habitat, which may not be the external environment.

We literally "see" things that are not really objects or events in the environment, because it turns out that those things can be perceived only within our social environs. We can still tell the difference between those things that are really in both the environment and our social environs and those things that only exist in our social environs using tests similar to our intuitive tests for detecting "objective" things and "subjective" things. For example, we perceive the real value of specially printed pieces of colorful rectangular paper. But nothing that we securely regard as environmentally real can causally affect that paper's perceived value unless its printed symbols are modified or other symbols elsewhere are massively modified (such as destroying half of the currency supply or erasing all financial records at all banks). This fact about those pieces of paper tells us that we only perceive the meaningful value of pieces of paper because their printed symbols only exist for our social environs. Money does not exist in the environment, because its affordances are demonstrably not residing there. As they say, money doesn't grow on trees.

Pragmatic naturalism recognizes the intellectual capacity of each scientific field to accurately report on the natural matters to which they are individually attuned. Like individual brains, scientific communities sustaining their inquiry methodologies forge theoretical "environs" to be valid portions of enveloping nature. No single scientific environs will get it all right in all perspectives and dimensions. The best we can do is partially overlap them, prevent radical discontinuities, and avoid transcendent chasms. In the aggregate, the many sciences can forge a broad-spectrum worldview that tries to comprehend everything real, even though we suspect that there is always more left unknown.

Notes

1 The central work of pragmatism defending these stances is still Dewey 1929. The implications of these stances for epistemology and philosophy of science are explored in Shook 2000. Michael Eldredge emphasizes the cultural role of experience for Dewey's thought in *Transforming Experience: John Dewey's Cultural Instrumentalism*.

2 Consult, for example, Caciola 2003.

3 A survey of current neuroscientific thinking is assembled by Franklin and Baars 2010, pp. 91–102.

4 See Turner 2003, pp. 57–70.
5 William James is a seminal figure inspiring these entanglements and alliances. See Proudfoot 2013.
6 Consult the chapters of Calvo and Gomila 2008, and those of John Stewart et al. 2010. See also the analyses by Shapiro 2010.
7 See Dennett 1991.
8 See Sterelny 2003; Mitani et al. 2012.
9 Stewart and Strathern 2003, pp. 4–5.
10 See Okrent 2007.
11 On varieties of consciousness dualism, the reader can begin by consulting Robinson 2004.
12 Gibson 1979.
13 Hilary Putnam rightly credits the classical pragmatists for this claim about cognition in his own contribution to this radical notion in *The Threefold Cord: Mind, Body, and World*, 1999. Representations are real, of course, where humans craft them in order to behold them, but that is a specialized cultural technology. The anti-representationalism stance is elaborated in such recent works as Chemero 2009, and Hutto and Myin 2012.
14 Consult the fascinating discussion of spider experience in Jackson and Cross 2011, pp. 115–74.
15 Consult Klass 2003.

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