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Transforming the World Into Experience: An Idealist Experiment

***Abstract:** Idealism tackles the mind–body problem by giving precedence to mind and relegating matter to a dependent status. Contrary to popular opinion, idealism need not deny the existence of matter nor dispute the realist contention that objects exist independently of perceptual experience. However, idealism requires that matter and external objects are experiential or mind-dependent in a fundamental way. I develop a form of idealism that affirms the existence of an external world, but makes it experiential. The characteristics of the external experience are taken to be akin to those of perceptual experience, but attention is given to some likely differences. An attempt to accommodate modern physics in the experiential account yields an idealism with panpsychic features.*

Introduction

Idealist philosophies, which take mind or consciousness to be more fundamental than matter, have been out of fashion for several decades, and in the current intellectual climate are likely to strike many as implausible. Surely matter is basic: consciousness is a product of the brain, isn't it? Although a few thinkers have continued to argue the merits of some form of idealism,¹ mainstream interests have moved in other directions, towards philosophies of mind that in one way or another take the physical world to be the basic or sole reality, or which offer a functional analysis of mental processes. These approaches either explain away, eliminate or set aside an outstanding feature of mind, namely 'consciousness' or 'experience'. The neglect of 'what it is like to be' a conscious subject, whether a bat or a human being, is rightly considered unsatisfactory (Nagel, 1974) and in

[1] On the fortunes of Anglo-American idealism in the twentieth century, see Armour (1996) and Mander (2000, pp. 13–17). Contemporary discussions favourable towards some form of idealism include those of Rescher (1973), Foster (1982; 2000) and Sprigge (1983). Idealism has a much broader purview than the mind–body problem: in addition to the usual metaphysical and epistemological issues, idealists have concerned themselves with ethical, social, political, aesthetic and religious questions.

recent years has attracted considerable attention. After all, we are only acquainted with conscious states, experiences vibrant with colours, sounds, flavours, emotions and thoughts. All the rest, including physical brain states and physical bodies external to perceptual experience, are inferred from experience and conjectural.

According to the representative theory of perception, we perceive the world indirectly, through perceptual representations. The representative theory is attractive because it readily accounts for many striking features of perceptual experience. However, the representative theory runs into a serious difficulty when the external world is assumed to be physical. It is not at all obvious how a physical world can support perceptual experiences, or, more generally, have causal relations with conscious states. To ease the mind–body problem and yet preserve the advantages of a representative theory of perception, we can experiment with an idealist alternative. Instead of taking the external world to be a physical reality, let us suppose that the external world is an experiential reality (experiential representative realism, or simply *experiential realism*). Perceptual objects continue to be mental representations, but now they represent objects that are themselves experiential contents. The approach has the advantage of working with the known, with experience. It avoids the questionable step of setting up an external reality fundamentally different from the perceptual one we know, and it avoids the causal disjunction that results from treating the mental and the physical as very different substances or properties. The ‘hard problem’ of consciousness studies is eased: if the entire universe is experience, there will be continuity between our conscious states and the states that support them.

If the universe is experience, what is the experience like? A consideration of ordinary experience is likely to give some pointers, for the external experience cannot be radically different from ordinary experience if a recurrence of the mind–body problem is to be avoided. In addition, we might look for clues in reports of unusually expansive experiences of the cosmos. Whether these ‘mystical’ experiences truly involve acquaintance with the external world is open to dispute, but idealism is more able to

entertain the possibility than most philosophies if it posits a universe that exists as experience or as the contents of a greater mind. Nevertheless, even if the universe were experiential in nature, it would be hasty to assume that human minds could have unmediated access to it. The subject requires more detailed consideration than I can give here and is left for another occasion (for a preliminary discussion, see Marshall, 1992).

However, another potential source of insight into external experience will be considered, namely physical science. The experiential universe absorbs the contents of the physical universe and so its structural aspects are open to study by the methods of natural science. With scientific realists, we can suppose that physics gives an account of underlying structures and processes, but add the qualification that underlying entities are features of an experiential external world. The challenge, then, is to uncover the organization of external experience that is reflected in physical theories, including those well-established modern theories that resist straightforward realist interpretation, that is to say, relativity and quantum theory.

In summary, I pursue an idealist rehabilitation of the external world through the following stages.

1. Set up a world of objects external to perceptual experience (*representative realism*).
2. Make the external world purely physical (*dualist representative realism*).
3. Observe that causal relations between the physical external world and conscious states are problematic (*mind-body problem*).
4. Defuse the problem by transforming the physical external world into an experiential external world (*experiential realism*).
5. Accommodate modern physics in the account by organizing external experience from a multiplicity of centres (*panpsychic experiential realism*).

The final stage draws inspiration from Leibniz's metaphysics of monads, a philosophy that takes centres of perception to be the basic constituents of matter. Prior to the twentieth century, there was little incentive to regard Leibniz's organic holism as a serious rival to the mechanical philosophy. For the most part, natural science slumbered undisturbed in its mechanistic cradle, and the philosophy of monads was depicted as a curiosity, a testament to the folly of speculative metaphysics. However, physical

science has moved on, and it is intriguing that the conceptual peculiarities of relativistic and quantum physics become less puzzling when located in a monadological framework.

Manufacturing the Physical World

In the representative theory, perception is like a veil that both reveals and conceals. It reveals by offering representations of the world; it conceals by offering representations rather than originals. In the representative theory, the world ‘out there’—*the external world*—is the world revealed and concealed by perception. The representationalist understanding of the external world arises through a consideration of perceptual experience, experience mediated by the sense organs and nervous system. The very *dependence* of perceptual experience on the sense organs invites a representative theory: it seems that stimulation of sense organs by external objects produces changes in the nervous system that are conveyed to the brain and assembled into perceptual experiences. The experiences provide representations of external objects, although the representations need not be resemblances and not all perceptual contents need be representational.

It is also tempting to suppose that the world is far more extensive than is revealed in the contents of a perceptual experience: perceptual *incompleteness* implies more extensive, unperceived tracts, and ultimately a whole universe of objects. The ‘external world’ gives formal expression to the assumption and allows us to suppose that a universe of structures and processes exists and continues to exist whether or not we enjoy perceptual representations of it. It is this resource — an enduring, comprehensive and orderly external world — that is held to be responsible for the *orderliness* of perceptual experiences. In addition, the idea of an external world helps us to address problems of perceptual conflict and illusion. Perceptions are to some extent relative, differing from observer to observer. Perceptual *relativity* has been invoked to cast doubt on the possibility of sure knowledge, but theories of an external world respond to scepticism by asserting a shared reality with definite attributes. Illusions and perceptual

variations are explicable by reference to the circumstances of percipients, such as the condition of their sense organs.

These and similar considerations make the representative theory of perception attractive. Nevertheless, it has been common for philosophers to criticize the theory on several counts, claiming for instance that it not only fails to avert scepticism but deepens scepticism by making the external world unknowable. Whereas representative realists suppose that the veil of perception reveals as well as conceals, critics emphasize concealment. Many of the standard objections, including the scepticism argument, have been addressed by defenders of representationalism, and, in any case, do not apply to all versions of the theory.² However, I take seriously an objection to those representative theories that set up a *physical* external world. Causal relations between perceptual representations and a physical world are problematic. My response is not to reject representationalism, but to question the physical conception of the external world.

How is the physicalization of the external world accomplished? Two closely related contributions, *abstraction* and *exclusion*, may be noted. The first abstracts entities from experience and accords them mind-independent status; the second gives an account of the external world that explicitly excludes the experiential. In the first case, complex experiential features are summarized in apparently simple concepts, notably the concepts of matter, space and time. The abstract entities are then ascribed an independent reality and their origin in experience is forgotten. The resolution of the world into matter, space and time is seductive because it draws on everyday conceptual habits, such as the analysis of objects into material constituents, the reification of experiential transformations into flowing Time, and a 'naive realism' unaware or forgetful of the experiential character of perceptual objects.

[2] Harrison (1976, pp. 134–5) identifies five motives behind the widespread philosophical rejection of representative theories, namely anti-scepticism, materialism (*mental* representations are unattractive to materialists) and dislike of views that (a) conflict with common-sense, (b) are not expressed in ordinary language, and (c) invoke entities (sense-data) that are not publicly observable. For defences of representative theories against the standard objections, see the collection of papers edited by Wright (1993). See also Jackson (1977, pp. 138–154) and Perkins (1983).

The concept of matter becomes more definite when it is combined with the representative realist notion of an external world and made explicitly non-experiential by various ‘exclusions’. A selective distribution of qualities, in which ‘sensible qualities’ are excluded from the external world, has been of great historical importance. Some perceptual qualities are said to resemble external qualities and provide an accurate impression of conditions in the external world, but other perceptual qualities are given no such status. It is almost invariably agreed that sensible qualities belong to the latter category.³

1. First exclusion: *sensible qualities*. Sensible qualities are confined to perceptual and other phenomenal states, and do not characterize external objects.

Sensible qualities—colour, sound, odour, flavour and tangible qualities—have been described as the qualities associated with just one sense modality (Aristotelian ‘proper sensibles’) and contrasted with the qualities associated with more than one modality (‘common sensibles’), such as the shape and motion of objects (see Smith, 1990). For example, shape perception is said to be shared by sight and touch, although the claim is controversial and the distinctness of visual and tactile shape perceptions has been claimed.⁴ The senses seem to give multiple witness to an external reality characterized by geometric-kinematic qualities, but sensible qualities receive no such corroboration.

Along with the restriction of sensible qualities to perceptual and other phenomenal states, such as dreaming, it is assumed that various aspects of conscious states, such as awareness, knowing, emotion and will, are similarly confined. ‘Conscious mind’ is excluded from the external world.

[3] The exclusion of qualities usually takes place within a discussion of ‘primary’ and ‘secondary’ qualities. ‘Primary quality’ denotes an essential quality of an external object. ‘Secondary quality’ is applied either to sensible qualities or to the microstructural characteristics of external objects that contribute to the stimulation of sensible qualities. In the latter sense, secondary qualities, like primary qualities, are external qualities. On the historical complications and confusions attending the use of the primary-secondary terminology, see Alexander (1985) and Smith (1990).

[4] Discussions tend to bring up the Molyneux Problem—if a congenitally blind man acquainted by touch with a sphere and a cube were suddenly able to see, would he be able to distinguish between the solids by sight alone? See Degenaar (1996).

2. Second exclusion: '*conscious mind*'. There is no awareness, knowing, emotion or volition external to perceptual and related experiences.

In fact, it is assumed that features of the external world are not experiential at all, external extension and motion included. Extension and motion are abstracted from experience and attributed to a non-experiential external world. Thus, central to the concept of the physical world is a contrast with experience. The thoroughgoing exclusion of experience has causal and explanatory implications: only physical qualities characterize the external world and so only physical qualities are given a causal role and invoked in explanations. It is assumed that the physical world is causally closed or nearly closed, giving mind little or no significance in the world at large.

In combination with the abstractions of matter, space and time, the exclusions yield a non-experiential, external multiplicity of extended, material structures contained in space and changing in time. The ancient Greek atomists posited an external world of solid atoms and void, and Descartes famously identified matter with extension and distinguished it from unextended mind. Of course, conceptions of the physical world have changed considerably since the days of ancient atomism and seventeenth-century mechanical philosophy. The geometric-kinematic qualities of shape, size, arrangement and motion, attractive to a nascent, quantitative science, were soon found to be insufficient and were replaced or supplemented by quantities such as force, momentum, energy, mass and charge, and eventually the extended matter-particles shrank to centres of physical force. More recently, the picture has been complicated by relativistic and quantum reformulations of physical concepts, so that there is no longer a settled view of the space, time and motion characteristics of the physical world. Nevertheless, there is still no suggestion in mainstream science that the external world has any intrinsic 'mind' characteristics or is experiential. Physical science has made considerable progress without taking mind or sensible qualities into account, and the achievements of the scientific enterprise might be taken to vindicate the physical conception of the external world. However, difficulties have never been far away.

An outstanding philosophical reason for seeking an idealist transformation of representative realism is the *mind–body problem*, an enduring challenge to physical conceptions of the external world. If external states are purely physical, how can they support states that are not purely physical? Conscious states are obviously connected to bodily structures and processes: the link between perceptual experience and the sense organs has been recognized for a very long time, and extensive links between conscious states and neuroanatomy have been discovered in modern times. For these connections to be possible, it might be expected that brain and mind are similar in nature, having in common whatever is necessary for a link to be possible. The expectation is brought to the fore when attention is focused on the generative and evolutionary aspects of the mind–body relation. How is a material brain able to generate a stream of experience? How was a purely material universe able to produce conscious beings? It seems unimaginable that physical structures and processes could ever be more than physical structures and processes, however complex they might become in the course of cosmic and biological evolution.

Is the discontinuity between mindless matter and immaterial mind really a problem? We are puzzled that radically dissimilar things can ‘meet’ and ‘engage’, are able to exist in relation to each other. In terms of cause and effect, it seems inconceivable that matter should be able to act upon or produce a conscious state. But is this to be unjustifiably narrow in our puzzlement, for the causal relation between *like* states might be considered just as mysterious as the causal relation between *unlike* states?⁵ Is matter–matter interaction in physical theory any more comprehensible than mind–matter interaction? It might be asserted that we should be satisfied with an account of causation that looks for only a correlation of events and is therefore untroubled by the lack of continuity between a cause and its effect. Investigation of the mind–brain relation, then, should be content to uncover correlations between physical brain states and conscious states. It should not look to explain the particular form taken by a conscious state,

[5] See, for instance, Nagel (1979, pp. 185–7) and Hart (1988, p. 59).

for instance, the specific correlation of a certain physical brain event with an experience of red, rather than an experience of green.

Unless we are satisfied with a retreat from causal explanations to correlations, the link between conscious states and physical states poses a serious problem. However, before abandoning the explanatory project at the chasm between mind and body, it would be prudent to ascertain whether the chasm is really there. Materialists attempt to remove the mind–body split by arguing that all is material or physical. Idealists also attempt to remove the split, but argue that mind or experience is basic.

Transforming the Physical World

The idealist approach to dissolving the mind–body problem has a greater likelihood of success. Materialism cannot dispose of the brute fact of experience, however ingenious its efforts to neutralize or eliminate conscious states. Idealism has a great advantage: it starts with experience, whilst materialism depends on hypothetical physical entities and states. Generally, idealists do not set out to reject physical concepts as baseless, but aim to show that they are constructions that reflect experiential structures and transformations. In popular expositions, idealism is sometimes misrepresented as a doctrine that rejects matter, material objects or the external world as illusory. Although idealism can be so formulated, very often it is not. In his survey of Anglo-American idealism, G. Watts Cunningham observed that none of the thirteen philosophers examined in his study had denied the existence of matter—what they denied was the existence of matter ‘out of any implicative relationship to mind or spirit’ (1967 [1933], p. 338). Idealism covers a wide range of possibilities, epistemological and ontological, and need not entail an experiential reinterpretation of matter, space and time. For example, Nicholas Rescher has argued for a mild ‘conceptual idealism’ that is compatible with several ontologies, including the idea of a purely physical world and the emergence of mind from matter (1997, pp. 248–50). At the other extreme, some idealisms take strong, ontological positions, such as panpsychic systems in

which conscious subjects are made fundamental units of reality. For instance, Timothy Sprigge argues that the universe is ‘psychical through and through’ and is composed of ‘innumerable momentary centres of experience’ (1983, p. 39).⁶

There are several ways to give a mind-dependent or experiential status to matter and physical objects. Phenomenalists and positivists hoped to define physical objects in terms of perceptual experience alone, contending that statements about material bodies are really statements about actual or possible sense experiences. There was no appeal to external objects, material or mental. Other strategies are not limited to sense experience and therefore have ampler resources for reabsorbing the physical. There are at least two idealist possibilities here. Firstly, it may be supposed that there is a greater mind that generates and organizes all our perceptual experiences directly, without the mediation of an external world. The concepts of matter and the external world are then abstractions that reflect perceptual experience and the activities of the organizing mind. Secondly, it may be supposed that there *is* an external world of objects and that it exists as an experience, perhaps as the experiential contents of a greater mind. Physical concepts are then founded on features of this experiential external world. John Foster (1982; 1985) finds both approaches in George Berkeley’s idealism, and labels the former *mentalistic reductionism* and the latter *mentalistic realism*. In the first case, the external world is derivative, ultimately reducible to the organizing activity of the greater mind; in the second case, the external world truly exists, as the contents of the greater mind (in Berkeley’s system, ‘the mind of God’).

Of the three approaches, only mentalistic realism calls upon an external world to help explain perception. Mentalistic realism will therefore appeal to idealists who see merit in representative theories of perception. Many features of perceptual experience (such as time-lags between visual and auditory perceptual content) point to the activity of representational

[6] Note also the ‘panexperientialism’ of David Ray Griffin, in the tradition of Whitehead’s process philosophy and Hartshorne’s psychicalism. Griffin, however, presents his standpoint as a ‘non-materialistic physicalism’ and makes the mental ‘always derivative from the physical’ (1998, p. 228).

processes and the simplest way to account for these features is to suppose that there really is an external world that comes to be represented in perceptual experience by causal processes. Phenomenalism gives no account of these features and mentalistic reductionism would have us believe that a greater mind sets up perceptual experiences in such a way that an external world appears to exist, even though it does not. All the paraphernalia of sense-organs and nervous systems, and all the peculiarities of perception suggestive of representation, are merely ways of giving the appearance of an external world. The more natural explanation is that perception seems to be representational because it *is* representational.

To develop an idealist form of representative realism, we can transform the external world of physical realism into an experience. By utilizing the physical world as our starting material, we preserve scientific insights into the structure of the world, but improve on the scientific account by avoiding the mind–body problem. The transmutation is accomplished by reversing the physicalization process outlined above—as good idealists, we recognize that physical matter, physical space and physical time are constructions, and we abolish at least some of the experiential exclusions. The procedure is not improper: the abstractions, the exclusions and the concept of the physical world to which they contribute are not inviolable. The physical conception of the external world is a piece of speculative philosophy, not an established truth, and may be disputed.

It is significant that the idealist transformation places extension in experience and therefore avoids the route that sets up consciousness and matter as unextended and extended contraries. Philosophers have had special reason to puzzle over the connection between mind and matter ever since Descartes exacerbated the mind–body problem by opposing the unextendedness of mind to the extendedness of matter, thereby ruling out one point of contact, the extensional qualities common to perceptual contents and external objects. In the idealist experiment conducted here, the external world is not sublimated into incorporeal consciousness, but transformed into a highly structured experience just as amenable to quantification and mathematical modelling as the purely physical world it

replaces. By placing extended, transforming bodies in experience, idealism can engage successfully with the universe of structures and processes investigated by science. The constructions of physical space, time and matter are absorbed into experience, and so too are other physical entities and quantities. It would be peculiar to attribute physical quantities such as mass, momentum, energy and charge to experiential things, but the attribution makes more sense if we interpret such quantities as derivatives of distance and time observations, and therefore constructions from experiential content. This would be to follow the example of the positivists who understood mass and force in terms of distance and time observations, or the modern geometrizers of force who attempt to understand all the forces of nature in terms of spacetime curvature. The idealist, of course, must go further by absorbing spacetime and its curvature into experience.

The transformation yields external objects with some sensible qualities. To avoid a possible misunderstanding, it should be stressed that the entire external world has been transformed into one experience. A less thoroughgoing transformation might simply infuse external bodies with sensible qualities (say, by filling external bodies with colour qualities), but retain the idea of a physical space in which the objects are contained. The external world would be partly experiential and partly physical, a troublesome mix that would fragment the external world into competing ontological categories and fail to overcome discontinuity problems. The idealist strategy avoids the problem by making the whole of the external world experiential—physical space and physical time, as well as physical matter, are reabsorbed into experience.

The physical world is extremely complex, orderly and extensive, and so its transformation yields an extremely complex, orderly and extensive experience. In the external experience, we would expect to find exhibited all structures and processes as experiential contents, from the smallest microstructures to large-scale cosmic structures. The transmissive pathways and brain processes that feed into perceptual experience would also be there. The representative theory of perception would now describe a process that involves only experiential parts: external objects,

transmissions, stimulated sense organs, nervous systems and perceptual representations are all experiential contents. Perceptual experiences, as the end-products of the chain, are just parts of the overall experience, special modifications of the experiential brains of organisms. Perceptions are little currents of experience in a great ocean of experience. In effect, materialist mind–brain identity theory has ‘gone idealist’. Conscious states are not physical states of physical brains in a physical universe, but experiential states of experiential brains in an experiential universe.⁷

In representative theories, consciousness of representations is said to be ‘direct’. There is no intermediary step between mind and its contents. In our idealist version, consciousness of representations continues to be direct, but now there is also an equally direct experience of external objects, with no intermediary processes. In the terminology of ‘mind’ and ‘mental contents’, we can say that mind is directly aware of its contents: our ordinary minds are directly aware of their perceptual contents and the greater mind is directly aware of its cosmic contents (which includes our perceptual contents). Thus, mind or consciousness is not to be likened to a spectator who watches images on a TV screen (the ‘little man in the head’ model), for the analogy puts a gap between mind and its contents, a gap that would have to be bridged by an intermediary process. Rather, ‘mind and its contents’ language is intended to convey a very close relationship between subject and object, although the precise nature of the relationship is open to debate. At one extreme, a firm distinction between mind and its contents could be made, but the problem of linking the two arises. At the other extreme, the need for an experiencing subject could be denied—experience requires no mind or consciousness to make it experience. In David Hume’s ‘bundle theory’, self or mind is nothing more than a collection of perceptions in flux. William James’s radical empiricism has

[7] Michael Lockwood proposes a non-materialist identity theory in which phenomenal qualities are attributed to the universe at large. However, Lockwood explicitly avoids mentalistic realism by supposing that phenomenal qualities can be separated from awareness and by allowing the former to ‘outrun’ the latter. Awareness is severely confined, to the brains of sentient beings, with the result that the world is phenomenal but not, in the main, experiential or mental. See Lockwood (1989, pp. 157–71; 1998) and Feser (1998).

no witnessing consciousness outside experience, a move intended to avoid the subject–object dualism. Both the subject (knower) and the object (known) are parts of experience (see, for instance, Taylor and Wozniak, 1996, pp. xiii–xviii).

Whereas a firm distinction between subject and object raises the dualist spectre of discontinuity once again, the elevation of experience to sole reality might go too far. There may be good reason to posit a ground that supports or generates the experiential universe, so long as the ground is not conceived as radically separate from experience (the panpsychic development in a subsequent section is one pointer to such a ground). Whether the ground is appropriately called a ‘subject’, ‘consciousness’, ‘mind’ or ‘self’ is an intricate question that cannot be addressed here. It is notable that Plotinus demoted the cosmic Intellect and its noetic contents (characterized by a unity of knower and known) to a penultimate ontological level, grounding them in an emanative One beyond intellection. Such recondite matters, however, need not detain us, as I do not aspire to a fully-fledged metaphysics here, only to an experiential transformation of the external world of dualist representative realism. Experience is made more fundamental than matter, but whether it is appropriate to make experience *the* fundamental reality is a question left open at present.

Characterizing External Experience

We already have some sense of the characteristics of the experiential external world because it serves as a replacement for the external world of physical realism. It must be extremely complex, orderly and extensive, and it will contain structures and processes from sub-atomic levels to cosmic scales. However, we need to know a great deal more about the experiential external world if we are to understand how it supports perceptual experiences. To explore the matter further, it will be helpful to introduce a terminology that distinguishes between the experiential types. We are supposing that there are at least two types of experience in which external objects are exhibited. The first we know well, perceptual experience, taken

to be representational and characterized by perceptual qualities, or *p*-experience and *p*-qualities respectively. Additionally, there is experience external to perception, characterized by various external qualities, or *e*-experience and its *e*-qualities. The terminology should not be taken to imply a ‘two-world’ metaphysics: perceptual experience is not cut off from external experience, for the former is simply a representational development out of the latter. Together they contribute to the full experiential universe, which comprises all instances of *p*-experience, the matrix of *e*-experience, and all other experiential parts not included in the two categories, such as dreams and hallucinations. The experiential universe is a complete experience, *c*-experience, the cosmic whole.

| the experiential world—complete experience, <i>c</i> -experience | | |
|-------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| ‘internal world’ | | ‘external world’ |
| <i>p</i> erceptual experience: <i>p</i> -experience, <i>p</i> -qualities, <i>p</i> -objects, <i>p</i> -knowledge. | other ‘internal’ states, including dreams and hallucinations. | <i>e</i> xternal experience: <i>e</i> -experience, <i>e</i> -qualities, <i>e</i> -objects, <i>e</i> -knowledge. |

How do *e*-qualities compare with the *p*-qualities of familiar experience? A straightforward transfer of perceptual qualities to external objects soon encounters difficulties when we consider how qualities as thoroughly embodied in the human frame as flavour, odour, hot and cold, and pain are to be transferred to the experiential universe. Here I shall take the easier path and consider only visual characteristics. I shall also pass over the extension of various aspects of ‘conscious mind’ to the external world, notably cognition, self-consciousness, emotion and volition. Furthermore, the procedure carries an anthropocentric bias that might not do justice to perceptual qualities associated with non-human percipients. The experiential universe must provide a resource for all perceptual experiences, not just for those experiences associated with a human sensory apparatus. We should be wary of making the external world too much in the image of human perceptual experience. Unfortunately we are not privy

to the internal worlds of non-human subjects and are therefore unable to specify other experiential characteristics that should be taken into account.

What we can say, however, is that at the very least there must be some continuity between human experiences and the external world, with colour, sound, odour, flavour, hot and cold, pleasure and pain, emotion and cognition rooted in external characteristics that are not fundamentally dissimilar. There may, however, be considerable differences, owing to a number of factors. Not only is there the contrast between perceptual partialness and external comprehensiveness, which may have some important repercussions to be noted shortly (such as panoramic vision and transparency in the external case), but also the contrast between the sense-mediated organization of perceptual experience and the sense-independent organization of external experience. Clearly, we must proceed with caution when extrapolating from familiar experiences to external experience and should certainly not expect an exact or even a close match.

The geometric characteristics of objects are perhaps the most straightforward to consider as they are already attributed to the external world by physical realists and may be carried over into the experiential reformulation without too many complications. We can suppose that a round ball (*p*-ball) in a perceptual experience corresponds to a spherical ball (*e*-ball) in the external world. Unlike perceptual representations, which are partial and highly dependent on sense organs and signal transmissions, the external experience is complete and would therefore exhibit the full geometry of the external object, not just a partial aspect given to an individual percipient. The full structure would be exhibited, which for a macroscopic object would include a great deal of microstructure, down to the smallest scales, to molecules, atoms and beyond. Thus, whilst the *p*-ball is a fairly simple experiential content, the *e*-ball would be an enormously complex experiential content.

There are several complications that attend our consideration of geometric *e*-qualities. There is, for instance, the issue of *perspective*, the dependence of the visual appearance of objects on their distances from the viewer and their relative positions. In the physical conception of the

external world, perspective is irrelevant because the external world is not taken to be an experience. However, in making the external world experiential, we have to consider whether an arrangement of objects will be experienced from a particular vantage-point. A simple extrapolation from visual *p*-experience would make visual *e*-experience perspectival too, organized from a point-of-view, with objects located near and far. However, unlike visual *p*-experience, the *e*-experience is comprehensive and would have to be panoramic or ‘spherical’, a view in all directions. In addition, perspectival features dependent on the reception of signals at the eyes, such as the ‘linear perspective’ effects of parallel-line convergence and the apparent diminutive size of distant objects, would not characterize external visual experience.

There is good reason why visual *p*-experience is organized from a point-of-view: it is dependent on the reception of signals at the eyes. But is there a reason why the visual content of *e*-experience should be so organized? Certainly, we cannot imagine a visual experience of the world that is not organized from a point-of-view, and it is tempting to suppose that all visual experiences of the world must have some kind of perspectival character. However, it is dangerous to take the failure of perception-based imagination as a guide and it would be premature to rule out the possibility of perspective-free vision. In a subsequent section, organization from points-of-view *will* be adopted as a characteristic of *e*-experience, but for the moment let us turn our attention to another important aspect of visual perception—colour qualities.

Just as it is impossible to imagine a field of objects without taking a perspectival stance, it is also impossible to imagine objects without introducing at least one sensible quality, notably colour or tactile qualities. Berkeley took this to mean that extension, shape and motion can exist only in a mind, in conjunction with sensible qualities (*Principles of Human Knowledge*, 10). But again, it is risky to depend on negative evidence, on the failure of perception-based imagination. However, in order to maintain continuity between *p*-experience and *e*-experience, let us suppose that extended *e*-objects involve at least one sensible quality. Colour is an

obvious candidate, for visual perception—the most elaborate of the senses—presents us with extended bodies of colour. Extended *e*-objects, then, would exist as the contents of an extra-perceptual colour expanse and the inclusive *c*-experience would involve a colour field that incorporates both visual *p*-content and *e*-content.

Note that experiential colour qualities (so-called colour ‘qualia’) are attributed here to both perceptual objects and external objects, a view strongly at odds with some prominent, contemporary theories of colour, including the eliminativist, physicalist and dispositional theories. These assume a physical external world, devoid of colour qualia, and contest amongst themselves whether or in what way physical objects have colour properties. The question ‘Are external objects coloured?’ does not enquire whether external objects have colour qualia (it is assumed that they do not), but whether external objects have *physical* properties that are rightly called ‘colour’.⁸ In our experiential approach, colour qualia could be attributed to the external world. The round, coloured ball in *p*-experience corresponds to a spherical *e*-ball with its own colour qualities. In each case, the ball exists as a colour-shape in a visual field. Do the colour characteristics of the *e*-ball match those of the *p*-ball? In all likelihood there will be little or no match, given the complex factors that contribute to a perceptual colour experience. The representational process, leading from the surface of the external object, through sense organs and the nervous system, is under no obligation to maintain the original *e*-colours. In a representative theory, a green *p*-ball is a representation assembled in the brain, and its green coloration arises in the brain. However, in our idealist version, the green colour does not inexplicably arise in a material brain devoid of colour qualities, but arises in a brain that is itself a structure with colour qualities. Because the brain is a transforming, coloured object, it is able to produce coloured, perceptual representations. In fact, *p*-experiences are just special states of the experiential *c*-brain, which includes both the perceptual experiences and the coloured brain structures immediately responsible for their formation (*e*-brain).

It is likely that the colour qualities of *e*-objects would differ in significant ways from the colour qualities that typify perceptual vision. Remember that *e*-experience is a comprehensive experience, not limited by the representational gaps characteristic of *p*-experience. The opaque surfaces of perceptual objects are symptomatic of the partialness of *p*-experiences: generally, we see only the surfaces of objects. The interiors are blocked from view because, in the main, signals reach the eyes only from surfaces. In contrast, *e*-experience is direct, not dependent on signals and receptors, and external experience would presumably be transparent, with no obstructions to vision. External objects would be transparent films or volumes of colour, comparable to coloured crystals or beams of light in perceptual experience, and the external world would lack opaque colours. At the very least, there would be achromatic films and volumes, with brightness variations that delineate a diversified, visual field. However, it seems unlikely that brightness variations alone would characterize external experience, for it is not clear that an achromatic external world would be able to support the hues of perceptual experience and we might expect to find at least primary hues in external experience. Note that transparent, coloured spaces would not *impose* a coloration on objects located behind them, in the way that a plate of yellow glass in perceptual experience imposes a yellowish hue on an object behind it. Rather, *e*-films or *e*-volumes would be coloured in themselves, independent of the transmissions and reflections on which perceptual experiences depend.

Accommodating Modern Physics

The experiential universe takes over the external world of physical realism and therefore inherits the structures and processes described by physical science. Physics becomes the study of experiential structures and their transformations—not the structures of perceptual experience, as phenomenologists and positivists have maintained, but the structures of external experience. Scientific realists maintain that the entities of physical

[8] For a selection of recent articles on the issues, see Byrne and Hilbert (1997).

theories correspond, if only very approximately, to real entities, structures and processes in the external world and are not merely useful fictions for organizing and predicting observational data. The experiential realist agrees with the scientific realist, but makes the external world and its contents experiential.

The experiential approach is worth considering because it eases the mind–body problem, but would be even more attractive if it yielded insights into external structures that purely physical theories could not give. It is therefore encouraging that the contents of the experiential universe can be organized in a way that accommodates several peculiar features of modern physics. I have developed the case elsewhere (Marshall 1992) and can give only an outline here. The key is perspectival organization, and the approach takes its inspiration from Leibniz’s philosophy of monads. Leibniz’s monads have perceptual states that express the whole universe from a sequence of points-of-view (for Leibniz, ‘perception’ is a broad term, not restricted to conscious perceptions). All monads are identical in content, but they differ by expressing the universe from their individual vantage points and with different degrees of ‘distinctness’ or awareness. The more advanced the monad, the greater is its awareness of perceptual content. Matter is an aggregate of monads, or rather, the perceptual expression in one monad of groups of other monads.⁹ Thus, the monadology provides a means of understanding the basic constituents of matter in experiential terms.

In the previous section, I was reluctant to extrapolate from perceptual perspective to a perspectival arrangement of objects in the external world, but it is fruitful to follow the Leibnizian example by organizing the experiential universe from a multiplicity of centres. Instead of one cosmic experience, then, we have a plurality of cosmic experiences, each a version of the universe organized from a unique centre-of-experience.¹⁰ The

[9] On differences of interpretation, see Woolhouse’s introduction to Leibniz (1998) and the references there to recent literature. See also Lopston (1999), who proposes a dualist alternative to the ‘orthodox’ idealist interpretation of the monadology.

[10] The existence of a plurality of equivalent experiences calls for a common source or ground. For Leibniz, the source is God, who creates the monads with harmonized perceptions and sustains them by ‘continual fulgurations’ (*Monadology*, 47).

perspectival organization brings some advantages. Firstly, it allows experiential realism to accommodate the special theory of relativity. The special theory is curious because it makes distance and time separations between events vary for observers in relative motion. It also has all the observers measure the same velocity for a light signal in free space. These are surprising results if we have supposed that there is an external world of objects with invariant properties. A representative realist expects the characteristics of a perceptual representation to vary, not the characteristics of an external object.

A monadological approach is helpful because it assigns a perspectival version of the universe to each state of an observer, whether a person or a particle in a measuring apparatus. The inertial reference frames of relativistic theory become experiential perspectives on the universe. The perspectival versions are essentially the same, being versions of the same universe, and so they transform in the same way and share the same ‘laws of nature’ (Einstein’s Relativity Postulate for inertial frames), a commonality that gives each version the same signal velocity (Einstein’s Light Postulate). However, the versions are also distinct from one another and so exhibit the different distances and durations that follow in the special theory from the commonality of laws across frames. There is no longer an absolute time, as in Newtonian physics, but the relativistic local times defined by the experiential transformations of each monad from state to state. In this way—sketched here in barest detail—a monadological extension of experiential realism is able to provide insights into the origin of relativistic phenomena. A physical realist theory cannot emulate the idealist explanation for it has no reason to posit a multiplicity of different versions of the same universe. The multiplicity makes sense only in an experiential understanding of the universe.

A second advantage of introducing experiential perspectives is the emergence of basic structural units that are profoundly interconnected, a ‘holistic atomism’ that may help to explain some curious features of quantum physics. The wave–particle duality and non-local connections of quantum physics upset deep-rooted realist assumptions. A realist interpreter

of quantum theory has to postulate physical entities that are sensitive to the immediate environment and to distant events in a way that is impossible in classical physics. The monadological introduction of cosmic perspectives is helpful because it allows interconnected units to emerge, structural elements that make the universe an integrated system. The feat is achieved by placing *representations* of all the other cosmic perspectives in each cosmic perspective. The universe contains not only sense representations of its parts, dependent on causal transmissions, but also monadic representations of the whole. The latter are the basic units from which objects are built up. The units are interconnected because each embodies the entire cosmic contents and is therefore sensitive to changes throughout the cosmos. The contents of each unit transforms from state to state, reflecting shifts in its own vantage point and shifts in the perspectives of all other units too.

In the monadological scheme, the basic unit that builds up the contents of the world is the world itself. Each fundamental part is a representation of the whole, a state of affairs that again makes sense only in an experiential understanding of the universe. But what form do the representations take? Leibniz seems to have held that monads are represented as *points* in other monads, as ‘metaphysical points’, with the point-of-view a ‘mathematical point’ (*New System*, 11), so that extended objects are bodies composed of punctiform units. Monads, the ‘true atoms of nature’ (*Monadology*, 3), have no size or shape, unlike the material corpuscles posited by Leibniz’s contemporaries. Whatever Leibniz may have intended, we can make the representations true to the experiences they represent, so that they are not mere points but precise copies. As representations of the universe, the units would have internal structure. We have taken the universe to exist as experience, so if we represent accurately one experience in another experience, we put the whole universe, with its extended contents, into the experience. Furthermore, the representation is itself a world of perspectival representations, and so on *ad infinitum*, so that there are unending depths of repeated microstructure in each basic unit.

Nowadays, it is much easier to place microcosmic representations within the macrocosm, given the conceptual developments of spacetime, non-Euclidean geometries, multi-dimensional spaces and general relativity. Relativistic theory has replaced the distinct notions of space and time with spacetime, a concept that has received contrasting philosophical interpretations, static and dynamic, substantival and relationist, realist and anti-realist (see, for instance, Sklar, 1992). Experiential realism, as a form of idealism, interprets physical spacetime not as a substance, but as an abstraction from experience. More specifically, physical spacetime is an abstraction that reflects the organization of external experience. But what is this external organization? The absolute Minkowski spacetime of the special theory is not an attractive model because it organizes events by mathematically constructed ‘invariant interval’ separations, not by the distances and durations of experience (see Marshall 1992, pp. 218–20). To retain the familiar ordering of events, we can resolve the absolute spacetime into a multiplicity of relative spacetimes for all the frames of reference. In experiential terms, there is a multiplicity of monadic states, each containing all states of experiential transformation, organized from a specific point-of-view. Each experience is, so to speak, ‘an eternal now’ that contains all objects in all stages of development, from formation to disintegration.¹¹ If each monadic state comprises a spacetime whole, the monadological understanding of matter gives a basic structural unit that is temporally as well as spatially inclusive. In physical terms, the spacetime universe contains spacetime representations of itself, and these representations are the basic units of matter. Furthermore, the basic units will be sensitive to all events, no matter how separated in ‘space and time’, a curious state of affairs that seems to be exhibited in quantum physics. Here, earlier events appear to be sensitive to later events, a non-local phenomenon highlighted by the so-called ‘delayed-choice experiments’ (see, for instance, Kennedy, 1985).

[11] On the problem of deriving the transient feel of ordinary experience from this ‘all-at-once’ experience, see Marshall (1992), pp. 109–42.

How are the perspectival representations to be included in each perspective? There are possibilities open to us that were unavailable in Leibniz's day. The possibilities are intimated by modern physical attempts to understand fundamental particles as closed or semi-closed spacetime universes, and by the use of extra, embedded space dimensions in efforts to unify the forces of nature through geometrification, as currently attempted in superstring theory. Although there were no suggestions in twentieth-century physics that spacetime-universe particles or embedded dimensions might correspond to monadic representations, it is not difficult to see that the conceptual and mathematical resources of modern physics could be turned towards the development of an updated monadological theory of matter. Consideration would have to be given to the manner in which the dimensions of represented monads are embedded at the points-of-view and to the possibility of accompanying effects in the immediate locality of a sequence of monadic particle-states. The particles of modern physics would have to be explained in terms of the monadic units, their holistic behaviour, and the influence of the units on their surroundings.

The outcome of our idealist experiment is a panpsychic form of idealism. Physical matter is an abstraction, but experiential matter exists, with basic structural units that consist of monadic representations. Panpsychism—the view that soul, mind, consciousness or experience is widespread throughout the universe in association with the basic units of matter—is not necessarily an idealist viewpoint and can be made consistent with many approaches to the mind–body problem, including dualisms, weak materialisms, dual-aspect monism and neutral monism. Panpsychism is a claim about the pervasiveness of mind, not about the nature of its relation with matter. Whilst many panpsychists have bestowed only a very primitive level of mentality on the units of nature, the panpsychic idealism that has emerged here has units endowed with the full cosmic experience, no matter how primitive or developed their sense-based experiences may be.

Concluding Remarks

The transformation of the physical world into experience has much to recommend it. The external world, useful for explaining many features of perceptual experience and central to realist interpretations of scientific theory, is retained, but in a form that may avoid the mind–body problem and may shed light on some peculiarities of modern physics. The transformation brings challenges too. Further characterisation of the experiential universe is needed, with more extensive consideration of sensible qualities (especially non-visual qualities), and attention must be given to cognitive and affective aspects of external experience. Fortunately, the enterprise need not be unduly speculative: the study of unusual experiences and the scientific exploration of the external world may contribute significantly to the project. Both may lead to a deeper understanding of the perspectival elaborations that gave a panpsychic twist to our considerations. In this context, a mathematical treatment of monads, regarded in physical terms as embedded representations of the spacetime cosmos and as the source of holistic, quantum behaviour, would be a particularly important step. However, the greatest challenge is likely to be the inertial resistance of materialist ideas, not easily dislodged after centuries of dominance. Experiential realism goes against the grain by making the universe experiential and far more knowable than is ordinarily allowed.

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