Unity of Soul, Unity of Consciousness

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Introduction: The Need for a Soul

The title of my talk this evening is “Unity of Soul, Unity of Consciousness.” My agenda is both ambitious and fairly complex, so it may be helpful to place a road-map before you at the outset. I shall begin with some remarks about theology’s need for a soul – roughly, a unified, coherent center of consciousness which is a rational agent, capable of being responsive, and responsible, to other human agents and also to God. I will not at this stage argue that the soul must be immaterial, but is clear that reductive versions of materialism, in which human action is in the end simply the resultant of the law-governed behavior of the particles of which we are made, cannot satisfy theology’s need for a soul. We then move on to consider some phenomena of empirical disunity – phenomena which may seem to threaten, both theoretically and practically, the demand for a unified soul. The phenomena I will be focusing on are commissurotomy and, even more striking, multiple personality. As a counterpoise to these phenomena, I put forward the unity-of-consciousness argument, deriving from Leibniz and Kant. While this argument might seem to conflict with the empirical evidence of disunity, I maintain that there is no inconsistency between the evidence and the argument. The combination of the two, in fact, both places a barrier in the way of a materialist account of mind and consciousness, and at the same time points out a severe difficulty for standard (especially Cartesian) varieties of dualism. I close by sketching out my own preferred view of the metaphysics of persons, emergent dualism. I shall argue that this view offers the best prospects for taking full account
both of the unity of consciousness and of empirical disunity such as is seen, most spectacularly, in cases of commissurotomy and multiple personality.

It is clear that theology has need of a soul, in the sense of a central, relatively coherent and unified focus of the personality. The soul must be rational, able to comprehend (among other things) the essential religious truths. A soul must also be an agent, capable of acting responsibly in relation to God and other human persons. Feeling and emotion play an essential role in religion, as in life generally, and the religious soul must be able to integrate its emotional responses with its cognitive apprehensions as well as its actions. An important theme in all this is the centeredness of the soul; the soul must somehow be the central unifying focus of the individual as a whole.

It has not been claimed, at this stage, that the soul must be immaterial. But it should be clear that reductive versions of materialism, in which both cognition and action are explained finally in terms of the physical interactions of our constituent particles, will not be able to give a theologically satisfactory account of the soul. Theology is primarily about persons, human and divine, and a philosophy in which the “manifest image,” in which persons are real and autonomous, must give way, ontologically, to a “scientific image” in which persons have disappeared from view, will be found thoroughly uncongenial. This much, I think, should be evident to everyone.

**Empirical Disunity: Commissurotomy and Multiple Personality**

Theology’s affirmation of a unified, central self or soul is however challenged by various phenomena which suggest that we are less unified than we take ourselves to be. Two especially
dramatic (though fortunately rare) types of cases will be considered here: commissurotomy, and multiple personality. Probably all of us are familiar with the basic facts concerning commissurotomy. In certain hard-to-control cases of epilepsy it has proved beneficial to sever the corpus callosum, the thick sheaf of nerve tissue which forms the main connecting link between the right and left cerebral hemispheres. In many instances this has lessened the severity of epileptic seizures. More surprisingly, this major surgical alteration of the brain has turned out to have relatively slight effects on the patient’s normal, day-to-day functioning. However, under controlled experimental conditions some striking results have been obtained. In the interest of brevity I will describe here only two cases, both featuring manipulative skills. One of Roger Sperry’s commissurotomy subjects, W. J., was asked to perform a task with his right hand that involved arranging blocks in a predetermined pattern. The right hand, of course, is primarily controlled by the left cerebral hemisphere, which is greatly inferior to the right hemisphere in its ability to perform tasks involving spatial orientation. As a result, the right hand was having difficulty with the assignment. And then,

Slowly and steadily . . . the left hand creeps in, brushes aside the right hand, and starts building rather more efficiently. The experimenter is seen [on Sperry’s film] pushing away the intrusive left hand. After a little while, along comes the left hand again. This time we see W.J. grasping the wrist of the left hand with the right, and pushing it away himself. But . . . after another pause, in creeps the irrepressible left hand once again. This time W.J. takes his left hand in his right, pushes it away – and sits on it, to stop it
interfering further.¹

Here is the other case:

L. B., an intelligent eleven-year-old commissurotomy patient, was given a pipe to hold in his left hand; a screen prevented him seeing what he was holding. The pipe was removed, and he was then asked to write, with his left hand, the name of the object he had just held. The left hand is of course primarily controlled by the right hemisphere, which had received the ‘pipe’ input from the left hand’s tactual sensing of the pipe. Slowly and laboriously L.B., with his left hand, wrote ‘P’ and ‘I’. At this point the left hemisphere took over — using its ipsilateral control over the left hand — and, changing the ‘I’ into an ‘E’, swiftly wrote ‘PENCIL’. The right hemisphere took over again, crossed out the letters ‘ENCIL’, and drew a pipe.²

In each case, there is a conflict between the two cerebral hemispheres, each apparently operating on a different conception of how the assigned task is to be accomplished. Furthermore, a strong impression is created that we have here two centers of consciousness, each seeking to pursue its own agenda. This conclusion is not irresistible; it could be that in each case one of the hemispheres is not conscious but is instead proceeding “automatically,” as one may perform many familiar actions without conscious attention. However, this does not seem at all a natural


²Wilkes, p. 138f.
reading of the situation. The tasks involved are not familiar, routinized procedures like brushing one's teeth or walking along a familiar route. Rather, they involve novel, interesting tasks that receive their point precisely from the special instructions given by the experimenter. The most plausible reading of the situation, surely, is that both hemispheres are somehow conscious, and each is attempting to perform the assigned task in its own way. I submit that any theory about the mind that forces one to deny this incurs a significant empirical burden, by forcing one to reject the most plausible way of understanding the observed facts in cases such as these. 3, 4

Multiple personality has been somewhat less discussed by philosophers than commissurotomy, 5 and is more likely to elicit a response of skeptical disbelief. Indeed, multiple

3For me personally one of the strongest pieces of supporting evidence is indirect – essentially, an argument from authority. The neuroscientist John Eccles, whose philosophical leanings were strongly Cartesian, nevertheless admitted that in split-brain cases “there is remarkable evidence in favour of a limited self-consciousness of the right hemisphere” (Evolution of the Brain: Creation of the Self (London: Routledge, 1989), p. 210). Such an admission, which contravened his own prior inclinations (as well as his published views stated in earlier writings) can only have been the result of strong pressure from the empirical evidence.

4Tim Bayne and David J. Chalmers have argued in defense of the view that there is in commissurotomy subjects a single consciousness, embracing the data represented in both hemispheres. See the Appendix to this article.

5The most outstanding exception is Ian Hacking’s book, Rewriting the Soul: Multiple
personality remains a topic of intense controversy among psychiatrists, a fact which should lead us to be cautious in drawing conclusions from contested data. The position taken here will be that there is such a condition, defined as “two or more personalities occurring in one individual, each of which is sufficiently developed and integrated as to have a relatively rich, unified, and stable life of its own.” I will not take a position on the ultimate causation of the condition, or on the most appropriate method of treatment. Nor is any conclusion drawn here concerning whether the condition has been over-diagnosed as a result of spectacular, widely publicized cases such as those of “Eve” and “Sybil.” My discussion is focused on the existence of multiple personality and on its implications for our metaphysical understanding of the mind.

In cases of multiple personality the original personality seems to have become fragmented, leaving parts which are “separate mental aggregates, each with its own memories, 

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Personologies and the Sciences of Memory (Princeton: Princeton University Press, 1995). No one interested in multiple personality should miss Hacking’s rich and provocative discussion. In chapter 16, “Mind and Body,” Hacking discusses the ways in which several other philosophers have treated multiple personality.

which form the nucleus for new, independently functioning constellations. 7 Multiple personality may sometimes have its origin in childhood fantasy and role-playing, but the separate personalities gain a degree of autonomy that clearly distinguishes this syndrome from play-acting. The different personalities display different patterns of brain function, as seen by an EEG, and give different, but internally consistent, sets of responses to the Minnesota Multiphasic Personality Inventory. 8 The MMPI is an extremely sophisticated test, with lie-detection scales built in; systematically faking responses without detection is considered virtually impossible. The syndrome may in some cases be exacerbated by unwise actions of the therapist (for instance, by showing excessive favorable attention to alternates that tends to reinforce their distinctness), but it exists outside the therapeutic setting and cannot plausibly be considered to be the result of therapeutic suggestion.

My present concern is not so much with multiple personalities as such, as with the apparent existence of simultaneously conscious multiple personalities in the same individual. Sally, the most prominent alternate of Morton Prince’s patient Christine Beauchamp, 9 claimed to

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7 Confer and Ables, p. 16.

8 See Wilkes, p. 111.

9 This case was originally reported in Morton Prince, The Dissociation of a Personality (London: Longmans, Green, 1905); I am relying on the account given by Wilkes.
have been “intraconscious”\textsuperscript{10} with Christine, aware of all of Christine’s thoughts as well as actions, since her early childhood. Similarly Jeanne, the main alternate of William Confer’s patient Rene, claimed to have been with Rene, and watching over her, virtually all of the time since they first “met” when Rene was four years old. Here again, as with commissurotomy, we have phenomena which seem to point to the existence of two or more centers of consciousness in the same human individual.

Now, this evidence is not unimpeachable. Alternate personalities have delusions of their own; Jeanne, for example, was for a long time unwilling to recognize that she shared the same body with Rene! So it might be possible to develop a hypothesis according to which, in each multiple personality patient, there is at any given time only one center of consciousness; the different personalities alternate, but never co-exist in simultaneous conscious states. But developing such a hypothesis in detail would present a formidable challenge. Among the phenomena to be accounted for are the diverse memories of the different personalities. Sally remembered Christine’s thoughts and actions, but emphatically as “hers” and not as “mine.” (The name “Sally” was originally chosen because Sally disliked Christine and objected to being called by her name.) Sally was able to recall Christine’s dreams in more detail than Christine herself could. On the other hand, Sally was uninterested in schoolwork and inattentive during lessons; she was quite unable to speak or understand French, a language in which Christine was

\begin{footnote}{10} The technical term for a subordinate consciousness that is aware of the primary personalities’ actions but not thoughts is ‘co-conscious’; one aware of both actions and thoughts is ‘intraconscious’” (Wilkes, p. 113n.). \end{footnote}
fluent. (This came in handy when the therapist wanted to communicate with Christine while excluding Sally.)

Another range of data to be explained concerns the apparent interactions between the alternates and the principal personality, and between the alternates themselves. Both Jeanne and Stella, another alternate of Rene, considered that they had a need to protect Rene, which sometimes involved "taking over" when a situation arose which Rene was unable to handle. On one occasion Stella phoned the therapist to say that Rene, after a traumatic experience, was determined to commit suicide by overdosing on her husband's Seconal and Valium. Stella was asked by the therapist to bring Rene to the emergency ward of the hospital, where he would meet her. Shortly thereafter, Rene did appear at the hospital, in a confused state with no recollection of how she had got there.\footnote{Confer and Ables, p. 130.}

These few observations merely skim the surface of the phenomena that would have to be explained by a hypothesis that would deny the existence of simultaneous consciousness on the part of two or more personalities. It is my strong impression (subject, of course, to refutation) that any hypothesis that could do this would have to be both ad hoc and extremely complicated, and thus antecedently improbable. Once again, there is an empirical price to be paid, if one is determined to avoid taking the data at their face value.\footnote{An alternative solution, of course, might be found in a radically skeptical approach to the multiple-personality data as a whole. Some readers might suppose that such skepticism is to be found in Hacking, but that would be a mistake. Hacking does not doubt that multiple-}
What conclusions concerning unity and disunity should be drawn from these examples? The most radical conclusion, that we have in these cases multiple distinct persons, has been seriously advocated, but there is little to recommend it. In commissurotomy cases, the many-persons interpretation flies in the face of the overall unity and integration of the personality, outside the experimental situations that elicit the anomalous responses. In multiple personality cases, on the other hand, there is an obvious, serious disruption of personal unity, though not one that necessarily precludes the assigning of moral responsibility.\footnote{Walter Sinnott-Armstrong and Stephen Behnke discuss this in “Responsibility in Cases of Multiple Personality Disorder” (Philosophical Perspectives 14: Action and Freedom (2000), pp. 301-23). They conclude that multiple-personality patients should be held legally responsible if and only if the personality in control at the time a crime was committed met the requirements for responsibility set out in the Model Penal Code.} But the supposition that we have here multiple persons has implications hardly anyone is prepared to accept. It is widely agreed that the objective of therapy for these cases is the re-integration of the original personality, with the fragments that have been “hived off” making their contribution to the resulting whole. But if we have here literally several different persons, then the desired therapeutic result amounts to ending the lives of one or more such persons – that is, to homicide.

personality patients are mentally ill, nor does he consider that the illness is caused by the patient-therapist interaction. He does, however, lay heavy emphasis on the way in which not only the interpretation of the condition, but its actual manifestation and symptoms, are shaped by the climate of psychiatric and popular opinion about such cases.
This may actually be the way the situation is viewed by some alternate personalities, but I suspect that no one who hears or reads this paper will be prepared to accept it. The claim that there are multiple persons can perhaps best be viewed charitably, as an expression of wonderment at the strange phenomena encountered in these cases.

But while there may not be multiple persons in these cases, it is hard to resist the conclusion that there are multiple centers of consciousness. And though this is less radical than the “many-persons” hypothesis, it has major implications of its own. For one thing, it undermines the formulas, “one person – one consciousness,” and “one mind – one consciousness,” which seem to be deeply entrenched in our thinking about these matters. Many would claim for these formulas the status of necessary truths, entailed by our concepts of person and mind. I am not certain whether this is correct or not, but if it is this may be a place where we are forced to revise our concepts under the pressure of experience. Such revisions, however, are far from trivial, nor are they easily accepted. I suspect that it is primarily resistance to this kind of revision that motivates the strong objection felt by many to attributing more than one center of consciousness to commissurotomy and multiple personality subjects.

Beyond this, the notion of multiple centers of consciousness in one person places considerable strain on Cartesian dualist conceptions of the mind, according to which the mind is

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14I may be overly sanguine. According to Hacking (writing in 1994), “A few years ago professionals were advising that one should never, in therapy, eliminate a single alter personality, for that would be akin to murder.” But he goes on to add, “Now the message is, get rid of the personalities altogether” (p. 54).
a "simple substance" with no internal divisions. How can such a substance be the seat of multiple centers of consciousness and still retain its simplicity? Perhaps what could be said here is that the soul has the potential for consciousness, but that potential must be actualized through the soul's relationship with a brain and nervous system—and, under some relatively rare circumstances, the potential is actualized simultaneously in conflicting ways by different subsystems of that brain and nervous system. I am not sure whether this move is coherent or not, but even if it is it threatens to demote the soul to the role of a passive bystander, with all the "real work" of the mental life being done by the cerebral machinery. This, I submit, is a far cry from the proud Cartesian heritage of the "thinking thing"!

The Unity-of-Consciousness Argument

At this point I will introduce another line of thinking, one that stands in some tension with the empirical evidence we've been surveying—namely, the unity-of-consciousness argument against materialism, derived from Leibniz and Kant. Some of you may tend to think that this argument is contradicted, and refuted, by the empirical data, but I will argue that there is no contradiction. We begin with a familiar passage from Leibniz:

In imagining that there is a machine whose construction would enable it to think, to sense, and to have perception, one could conceive it enlarged while retaining the same proportions, so that one could enter into it, just like into a windmill. Supposing this, one should, when visiting within it, find only parts pushing one another, and never anything by which to explain a perception. Thus it is in the simple substance, and not in the
composite or in the machine, that one must look for perception.\textsuperscript{15}

This passage is frequently quoted, but often its force has not been appreciated. The difficulty does not lie, as some have thought, in the fact that Leibniz' example was limited by seventeenth-century technology. If instead of his "parts pushing one another" we fill the machine with vacuum tubes, transistors, or for that matter with neurons, exactly the same problem remains. The problem does not lie in the pushes and pulls but rather in the complexity of the machine, the fact that it is made up of many distinct parts, coupled with the fact that a complex state of consciousness cannot exist distributed among the parts of a complex object. The functioning of any complex object such as a machine, a television set, a computer, or a brain, consists of the coordinated functioning of its parts, which working together produce an effect of some kind. But where the effect to be explained is a thought, a state of consciousness, what function shall be assigned to the individual parts, be they transistors or neurons? Even a fairly simple experiential state – say, your visual experience as you look around this room – contains far more information than can be encoded in a single transistor, or a single neuron. Suppose, then, that the state is broken up into bits in such a way that some small part of it is represented in each of many different parts of the brain. Assuming this to be done, we have still the question: \textit{Who or what is aware of the conscious state as a whole?} For it is a fact that you are aware of your conscious state, at any given moment, as a unitary whole. So we have this question for the materialist:

When I am aware of a complex conscious state, what physical entity is it that is aware of that

This question, I am convinced, does not and cannot receive a plausible answer.

Here is a fairly simple formal presentation\(^{16}\) of the unity-of-consciousness argument:

1. I am aware of my present visual field as a unity; in other words, the various components of the field are experienced by a single subject simultaneously.

2. Only something that functions as a whole rather than as a system of parts could experience a visual field as a unity.

3. Therefore, the subject functions as a whole rather than as a system of parts.

4. The brain and nervous system, and the entire body, is nothing more than a collection of physical parts organized in a certain way. (In other words, holism is false.)

5. Therefore, the brain and nervous system cannot function as a whole; it must function as a system of parts.

6. Therefore the subject is not the brain and nervous system (or the body, etc.).

7. If the subject is not the brain and nervous system then it is (or contains as a proper part) a non-physical mind or "soul"; that is, a mind that is not ontologically reducible to the sorts of entities studied in the physical sciences. Such a mind, even if it is extended in space, could function as a whole rather than as a system of parts and so could be aware of my present visual field as a unity.

8. Therefore, the subject is a soul, or contains a soul as a part of itself.

\(^{16}\)This version is adapted from a formulation by Paul Draper, who in turn was summarizing the argument as given in chapter 5 of my book, *The Emergent Self* (Ithaca: Cornell University Press, 1999).
So far as I am able to tell, this is a sound argument, one whose premises are either evidently true or at least highly plausible. Leaving aside the proposed account of the soul in step 7, the most likely place for a materialist to dissent from the argument is step 4, the denial of holism. This, I think, is pretty well where the materialist is forced to go, if he wishes to avoid the anti-materialist conclusion of the argument. (And for what it’s worth, I think Peter van Inwagen is committed to holism at this point, in spite of his expressed reservations about the doctrine.)

But is the unity-of-consciousness argument not refuted by empirical evidence of disunity, as found in commissurotomy, multiple personality, and numerous less exotic sorts of cases? In a word, No. The unity-of-consciousness argument takes as its starting point the experienced fact of unity – but this is really a very modest sort of unity, consisting merely in the fact that one has at a given moment a phenomenal field (visual and/or auditory and/or tactual and/or ...) which comprises a large amount and variety of data. That there may in other respects be disunity – even dramatic and surprising disunity – in no way undermines the argument or its conclusion. Nor, let me add in passing, is the argument undermined by the work neuroscientists have done on the so-called “binding problem.” The binding problem, as they have addressed it, is essentially an engineering problem, the problem of how various sorts of information encoded in the brain are brought together and coordinated so as to enable us to have the coherent, meaningful sorts of experiences we actually do have. (For example, how are the color red and the shape square, represented in different parts of my visual system, brought together so as to constitute the

17 See Peter van Inwagen, Material Beings (Ithaca: Cornell University Press, 1990) Section 12. For a discussion of van Inwagen’s view, see The Emergent Self, pp. 140-44.
perception of a red square?) This engineering problem (or cluster of problems) clearly must have an engineering solution, in the actual structure and functioning of the brain, and it is the job of neuroscientists to find out what that solution is. But nothing that has been done or that can be done along these lines constitutes an answer to the question, How can a unitary state of consciousness be a state of a complex physical structure, such as the brain?

Tension – and Resolution?

We can conclude, then, that there is no contradiction between the empirical evidence in commissurotomy and multiple personality cases, and the unity-of-consciousness argument. And it is fortunate that this is so, since both the evidence and the argument seem well-established and worthy of our acceptance. However, it cannot be denied that combining the two leaves us with a certain tension. On the one hand, the unity-of-consciousness argument claims to show that the subject of our conscious states cannot be a complex material object, such as the brain. On the other hand, the commissurotomy and multiple personality evidence, along with much, much else, strongly suggests that the source of conscious experience is to be found in the brain and nervous system. It is evident that the multiple centers of consciousness found in commissurotomy have a physical cause, since the phenomena result quite directly from a surgical alteration of the brain. The causation of multiple personality is less well understood. But the distinct patterns of brain activity for the different personalities, as shown by an EEG, strongly suggest that here also a proximate cause is to be found in the existence of several different, largely separate and internally coherent, functional control patterns within the brain. (This is not of course to deny the role of psychological and interpersonal factors in establishing and activating these different
functional patterns.) And there is a great deal more evidence which shows the role of the brain in generating conscious experiences of various sorts. This is especially evident in “localization studies” which point to specific regions of the brain as the locus of specific types of information-processing. I can say as a matter of personal experience that it is very difficult to get Cartesian dualists even to attempt to provide a coherent account of these phenomena. Usually the most one gets is a dogged insistence that there is no logical contradiction, combined with a certain amount of hand-waving.\(^{18}\) In my opinion this body of evidence constitutes a very serious difficulty for dualism of the Cartesian type, far more serious than the (greatly overrated) objection to causal interaction between the body and an immaterial substance. (But why, you may be asking, am I wasting our time by talking about a disreputable, universally despised view such as Cartesian dualism? My answer is that part of my agenda is to point out that dualism in general has been far too quickly dismissed, and the motivations for taking it seriously are more substantial than is usually acknowledged by philosophers. If there are compelling objections to certain dualist views, these need to be spelled out clearly; mere appeal to cultural prejudice is not the method of true philosophy.)

\(^{18}\)The best answer I have seen is from Charles Taliaferro: “Allow for interaction, and I see no reason why we shouldn’t expect the connection to be intricate and many-layered, replete with information processing” (from personal correspondence). This is still very general, but at least it gives us some idea of how the view could be further developed. It also, however, tends to undermine the independence of the mind as the “thinking thing,” as affirmed by classical Cartesian dualism.
So we have a tension, between an argument which contends that the subject of experience cannot be a material object, and evidence which strongly suggests that consciousness arises as a result of brain function. When the problem is stated in this way, a solution virtually stares us in the face. But it is quite a radical solution, one that exacts a metaphysical price of its own. Put briefly, the solution is that there is indeed an immaterial subject of experience, but one that emerges from a complex physical object, namely the brain and nervous system. Normally what is generated by a brain is a single, well-unified conscious subject, but under special conditions, as seen in commissurotomy and multiple personality, the consciousness can divide or fragment.

Stating the proposed view in this way signals immediately that the view is a form of emergentism. But emergentism comes in many different varieties, and this is one of the stronger ones, holding that a new individual, not composed of previously existing “stuff,” is what emerges from the right configuration of the brain and nervous system. Without doubt, such a strong form of emergentism will seem implausible to a good many philosophers. Still, we need to remind ourselves what the alternatives are. Substance dualisms that make the soul a special divine creation have appealed to many on theological grounds, but they also meet with serious objections—objections which I won’t detail here. ¹⁹ Reductive versions of materialism are non-starters theologically, for reasons given above. But they encounter serious philosophical difficulties as well; it was frustration over these difficulties which led to the brief flourishing of eliminativism. “Non-reductive materialism” has been proclaimed a myth by Jaegwon Kim, and

¹⁹See The Emergent Self, ch. 6.
his reasons for saying this appear compelling.\footnote{See especially Jaegwon Kim, “The Myth of Nonreductive Materialism,” in Kim’s \textit{Supervenience and Mind: Selected Philosophical Essays} (Cambridge: Cambridge University Press, 1991).} Kim has also stated that emergentism has really been the predominant view in philosophy of mind for several decades, though not always under that name. If we consider that some kind of emergence or other is the best way to go, then the main question before us is, what variety of emergentism does the most justice to all the phenomena of our experience? Weak versions of emergence, that maintain the causal closure of the physical domain, make it simply impossible to give a coherent account of our capacity for rational thought, among other things.\footnote{For argument, see \textit{The Emergent Self}, ch. 3.} If our objective is to avoid causal reductionism, we shall have to allow for \textit{emergent laws} and \textit{emergent causal powers} – powers that are \textit{not} the causal consequences of powers exhibited by physical stuff in simpler situations than those in which the emergence occurs. According to this stronger variety of emergence, under certain circumstances the basic physical stuff of which we are made \textit{acts in ways that deviate from the fundamental laws of physics}. And the deviations do not amount to minor modifications, such as some physical constant or other’s being altered in the fourth or fifth decimal place. On the contrary, the principles that have to come into play are of a \textit{fundamentally different kind} than the laws of physics as we know them; they will be \textit{teleological} principles, principles which state that certain things happen \textit{in order that some goal may be achieved} (for instance, the goal of arriving at the
truth about things), and not merely as prescribed by some impersonal mathematical function. The best statement of this type of emergentism known to me is by Timothy O’Connor, and I salute him for his willingness to take on the physicalist establishment with such a radical proposal. But the question I put to O’Connor, and to others who may be attracted to such a position, is this: Is it all that much more radical to affirm an emergent individual substance – one that is not composed of the ultimate particles of physics? Strong emergentists such as O’Connor have already made a decisive break with the prevailing direction in the metaphysics of mind; doesn’t it make sense for them to take just a step further, and arrive at a view that can really do the job laid out for it? For, absent a radical holism which few philosophers are willing to embrace, even a strongly emergentist materialism such as O’Connor’s cannot meet the challenge posed by the unity-of-consciousness argument. (Nor, I believe, can such a view give a coherent account of the resurrection of the dead and eternal life – but that is another large topic, far too large to pursue at this juncture.)

So, here is my proposal: Emergent dualism, which affirms that a mental substance emerges, under suitable conditions, from a functioning brain and nervous system, is the view that best accounts for the role of the physical organism in generating consciousness as well as for the distinctively “mental” character of consciousness itself. For those who find this a bit much to swallow, I point out that the view is not in fact altogether novel; an extremely similar view was

held by Karl Popper, who certainly had no theological axe to grind. But in meeting the requirements of philosophical rationality this view also, if I am not mistaken, goes a long way towards meeting theology's need for a soul.

Appendix: Bayne and Chalmers on the Split-Brain Evidence

In an important article, Tim Bayne and David Chalmers argue that the split-brain evidence for divided consciousness is at best inconclusive. They begin by making a distinction (taken from Ned Block) between access consciousness and phenomenal consciousness, defined as follows:

A mental state is access-conscious . . . if by virtue of having the state, the content of the state is available for verbal report, for rational inference, and for the deliberate control of behavior (28).

A mental state is phenomenally conscious when there is something it is like to be in that state . . . [so that] being in that state involves some sort of subjective experience (28).

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Armed with this distinction, they stipulate two ways in which conscious states may be unified:

Broadly speaking, two conscious states are *access-unified* when they are jointly accessible: that is, when the subject has access to the contents of both states at once. Two conscious states are *phenomenally unified* when they are jointly experienced: when there is something it is like to be in both states at once ((29)).

They go on to formulate a number of theses on the unity of consciousness\(^2\); for our purposes it will suffice to note the

**Access Unity Thesis**: Necessarily, any set of access-conscious states of a subject at a time is access-unified (31)

and the

**Phenomenal Unity Thesis**: Necessarily, any set of phenomenal states of a subject at a time is phenomenally unified (33).

These theses are related to the split-brain evidence in the following way: that evidence strongly suggests that, for split-brain patients, access unity has broken down (and thus, that the Access Unity Thesis is false). There is a strong inclination, for many people, to conclude from this that phenomenal unity has also broken down for these patients, and thus that the Phenomenal Unity Thesis is also false. Bayne and Chalmers argue against this by presenting a case in which access

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\(^2\)Here and throughout their article, Bayne and Chalmers make a number of technical distinctions which are not pursued here. I do not believe this will affect any of the points made in this note.
unity breaks down while phenomenal unity is preserved, showing that a failure of the former need not entail a failure of the latter. They are inclined to affirm the Phenomenal Unity Thesis as a conceptual truth, though they refrain from pronouncing definitely on the matter.

The case they rely on is from an experiment by Sperling, in which a subject is briefly (250 ms.) shown a matrix consisting of three lines of four letters each. Subjects are then asked to report the contents of the matrix. When asked to report the contents of any one row, the success rate is fairly high (3.3 out of four letters). But when asked to report on the entire matrix, the success rate is only 4.5 out of twelve letters. Apparently, after the first few letters have been reported, accurate memory of the others is lost, so that the remaining answers are essentially random. It appears, then, that while any row of the matrix is access-conscious, the subject is not access-conscious of the information in all three rows – that is, the subject cannot utilize all of that information to report correctly on the letters in the matrix. So access unity fails. Yet there is nothing in the experiment that suggests a breakdown of phenomenal unity; it is plausible that the subject was initially conscious of all the letters together.

It seems that this experiment does establish a good deal of what Bayne and Chalmers were hoping to establish. We do have here a breakdown of access unity, as they have defined it, and so the Access Unity Thesis is false. Furthermore, there is no reason in the case to suppose a breakdown of phenomenal unity. So the fact that two conscious states are phenomenally unified does not entail that they are access unified, and thus far the Phenomenal Unity Thesis remains

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unscathed. Applying these results to the split-brain phenomena, they suggest that in split-brain cases we have a breakdown of access unity but not a loss of phenomenal unity. There is, in other words, a single consciousness which embraces the information represented in both cerebral hemispheres, even though the utilization of that information is limited in the ways shown by the experiments.

Let us, however, examine their case a bit more closely. Viewed schematically, Sperling’s results fit the following scenario:

1. The contents of states $C_1$, $C_2$, $C_3 \ldots C_n$ are phenomenally unified in a subject’s experience during a (brief) period of time $t$.

2. During a (brief) period of time $t'$ (which may or may not coincide with $t$) any of the $C_i$ can be utilized in the control of behavior, but $C_1$, $C_2$, $C_3 \ldots C_n$ cannot all be utilized during that period. (Thus, the states $C_1$, $C_2$, $C_3 \ldots C_n$ are all access-conscious, but there is not access unity for these states.)

3. After $t'$ has concluded, the elements of $C_1$, $C_2$, $C_3 \ldots C_n$ that were not utilized are lost (not remembered), and can no longer be utilized for the control of behavior.

Viewed in terms of this schema, the Sperling experiment is seen not to be unique but rather to be an instance of a type of scenario often witnessed in life outside the laboratory. Consider, for instance, the situation of a football quarterback as he drops back to throw a pass. Within a few seconds he needs to register and evaluate information concerning (among other things) the pass routes run by his receivers, the positions and movements of the defensive backs, and the movements of the charging defensive linemen, who will seek to tackle him before he can
release the pass. It is well known that inexperienced quarterbacks often have difficulty processing this information in the time available. Thus, a quarterback may note that his primary receiver is covered but may still be able to catch a pass if it is thrown accurately, but may fail to realize that another receiver has eluded his cover man and is running un molested into the end zone — and this in spite of the fact that the latter information is in some way present in his visual field. If we add to this (plausibly enough) that after the play is over the unutilized information is quickly lost from memory, we have a close analogue of Sperling’s experiment. And we have a confirmation, from ordinary life, of the results relied on by Bayne and Chalmers.

We can now make the following observations about these two cases:

1. Once we are clear as to what is happening, the results in the two cases are not very surprising. Indeed, these results can be seen as the result of principles that plausibly must govern the design of complex biological creatures such as we are. The inability to process and utilize all of the available data in a short space of time reflects what Bayne and Chalmers call a “bottleneck”; it results from the fact that, given limited neurological resources, any information-processing system is necessarily limited in its capacity. And the loss of unutilized data reflects the impracticality of retaining in memory vast amounts of low-priority information.

2. These cases do not seem very similar to the split-brain cases; in particular, they have no tendency to make us question the unity of phenomenal consciousness, whereas the split-brain cases unquestionably do have such a tendency, whether or not it is justified.

3. It seems a bit odd to speak of these cases as counterexamples to a principle of the unity of
consciousness. It would seem that a counterexample to a "unity principle" should exhibit *disunity* of some significant kind, but that does not seem to be the case here. The only "split" that occurs in the examples is between the information which happens to be utilized, and the information which could have been utilized but was not because other information occupied the available processing capacity.

4. Notwithstanding point 3 above, the cases are in fact counterexamples to Bayne and Chalmers' Access Unity Thesis. But this may lead us to wonder whether the "unity" expressed in that thesis captures accurately what is at stake in the debate over the split-brain results. We may, then, be motivated to formulate yet another unity thesis, one that does more justice to the issues in that debate.

Here is my candidate for such a thesis:

**New Access Unity Thesis:** Any two access-conscious states of a subject at a time, \( C_1 \) and \( C_2 \), which are such that during a time-period \( t \) both \( C_1 \) and \( C_2 \) can be utilized in the control of behavior, are such that it is possible during \( t \) for the conjoined contents of \( C_1 \) and \( C_2 \) to be utilized in the control of behavior.

This differs from Bayne and Chalmers' Access Unity Thesis, in that it will not allow as counterexamples failures of access that result merely from engineering limitations such as those noted in (1) above. Because of this, the Sperling results and my quarterback example are *not* counterexamples to the New Access Unity Thesis. In those cases, it is not true that, during the relevant time-period, it is possible for both \( C_1 \) and \( C_2 \) to be utilized in the control of behavior. It is precisely because of this that the experimental subject's recall fails when asked to identify the
letters in more than one row of the matrix, and the quarterback is unable to keep track of what is happening to all the receivers and defensive backs at once. The failure, in both of these cases, is readily attributed to the limited capacity for information processing.

However, the split-brain results are plausibly seen as counterexamples to the New Access Unity Thesis. Consider the following (relatively simple) case: The words “key ring” are projected briefly onto a screen, in such a way that “key” appears in the left visual field and is transmitted to the right hemisphere, while “ring” appears in the right visual field and is transmitted to the left hemisphere. The subject, asked what he saw, says “ring,” but has no idea what sort of ring in particular. (The speech processes are controlled by the left hemisphere.) But if asked to point with his left hand (controlled by the right hemisphere) to what he saw, he will point to a key and not to a ring. We have, then, a situation in which the subject is able to utilize the word “key,” and also the word “ring,” in controlling behavior (and thus is access-conscious of both words), but is not able to utilize the conjoined contents, “key ring.”

The problem this creates for Bayne and Chalmers is to devise a plausible explanation, consistent with the Phenomenal Unity Thesis, of the subject’s inability to utilize the conjoined contents. On the face of it, the most plausible explanation for this would seem to be that there simply is no phenomenal awareness of the conjoined contents, “key ring,” and thus that phenomenal unity has failed. This conclusion, to be sure, is not absolutely forced upon us; it remains logically possible that there is such an awareness, but that for some reason it is not able.

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to be expressed in any form of behavior. But then the burden reverts to Bayne and Chalmers, to explain the causal impotence of this awareness. One explanation that beckons is that all awareness is causally impotent; causal efficacy resides solely in the neural connections, which in this case are absent. But if the price that must be paid to uphold the Phenomenal Unity Thesis is epiphenomenalism, many of us will find it excessive.