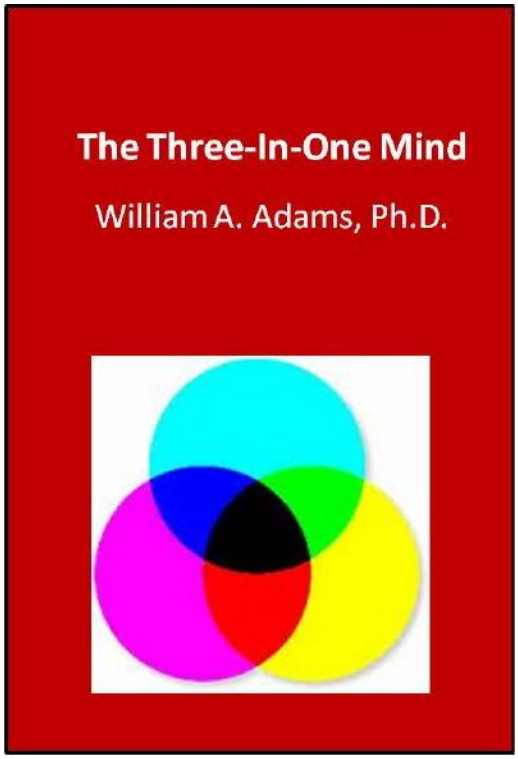

The Three-In-One Mind

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Preface

For over thirty years I've been convinced that the mind comprises three different streams of concurrent consciousness. I first applied that idea in *The Experience of Teaching and Learning: A Phenomenology of Education* (Adams, 1980), which was an attempt to make my experience in the classroom comprehensible. But it took years more to work out the details of how a three-part mind works.

A three-way splitting of the mind is not a new idea. Freud proposed a three-part mind of ego, superego, and id. Ancient Christian sects described tensions among body, mind, and soul, perhaps paralleling the Trinity. Plato divided the soul into three parts: rationality, emotion, and motivation. In the renaissance, the mind had three faculties: memory, imagination and reason. Throughout history there have been many three part architectures of the soul, mind, or self. This is another one, one that pushes description and explanation to new levels of detail and offers some useful innovations that plausibly (to me, anyway) resolve many otherwise perplexing problems of mind..

The three part definition of mind presented in this book is a hypothesis, or a speculation. Collateral scientific evidence is brought to bear where appropriate, but the plain fact is that science does not have much to say about the mind. Science studies the brain, because brains are physical meat that can be observed and measured. A mind is less than a vapor. A mind is not physical at all. Ideas weigh nothing and take up no space; they do not conduct electricity or refract light; they are not chemically active and are not susceptible to gravitational forces. Ideas, hopes, thoughts, plans, desires,

beliefs, and intuition are all real, the most real parts of our lives, but they are not real in a physical way that is amenable to scientific observation.

Nearly all scientists would be skeptical of such stark dualism, if they thought about it at all, which most don't. Most cognitive neuroscientists, for example, if pressed, would insist that the mind and the brain are the same thing, or if they are different, that the brain creates the mind. Most scientific psychologists would say the same thing. Therefore, these scientists would argue (and many have), we will best learn about the architecture of the mind by studying the brain.

Those ideas, however, are not based on scientific fact. They are arbitrary beliefs, intellectual biases, personal preferences. To argue, for example, that the mind and the brain are actually the same thing, is intellectually incoherent. Mind and brain are patently so different that we use entirely different languages to talk about the contents of the mind as opposed to the structure of the brain. The qualities of memory, emotion, motivation, imagination, thinking, and so on, are not similar to the qualities of meat, which is what a brain is. A brain is three pounds of fat, protein, and water. Memories do not have the quality of fat, protein, and water. Even the memory of a steak I ate does not have the quality of meat. The memory lacks texture, mass, odor, color, temperature, even taste. I have a vague memory of the odor of a steak, but I cannot smell the memory itself. I can visualize a steak, but I cannot literally see a remembered steak, because vision requires eyeballs and there are no inner eyeballs.

The two domains, of mind and brain, are intellectually incommensurable. Anyway, if they *were* the same thing, we would not need to waste our time with

cognitive neurophysiology. We would already know everything about the brain just by thinking, if the mind and the brain were identical.

The belief that the brain somehow generates or causes the mind is equally nonsensical, mainly because it contradicts fundamental principles of science. For example, the conservation of mass and energy is a foundation of science, elegantly stated by Einstein's famous equation, $E=MC^2$. Conservation means, among other things, that a physical object, like a brain, cannot cause a non-physical phenomenon, like an idea, because energy would not be conserved. But there is no reason to worry about that happening, because it is impossible to even imagine how a physical event *could* cause a non-physical event.

There are other scientific objections to the mind and brain being separate in a strong mind-brain dualism, but those objections are equally as deficient and implausible as are these two main ones just discussed.

Reduction and Supervenience

Some scientists might agree that mind and brain are different, but would insist that the mind ultimately reduces to the brain, in much the way that chemistry reduces to physics. Supposedly, all the facts of chemistry can, in principle, be explained by the facts of physics. Therefore, chemistry is really just physics with a different language and different procedures. That's what it means to say that chemistry *reduces* to physics.

Philosophers sometimes express that relationship by saying that chemistry *supervenes* on physics, meaning that chemistry is just another way of talking physics. Chemistry is a more abstract level of discussion that hides the finest detail of complexity for the sake of communication and practical application.

Likewise, this argument goes, all the facts about mental events are (or will be some day) explainable by facts about the brain. That is the reductionist view: mind reduces to brain. Saying that mind supervenes on brain means that talk of mental events is legitimate, but only as a special vocabulary used to hide the complexity of neurological description. Mind-talk is necessary to facilitate practical communication but should not be taken literally.

By analogy, we talk about clicking on screen icons to make things happen in a computer program. That is high-level user-interface talk that avoids having to discuss algorithms embedded in software objects in the program that makes the computer perform. In turn, talk of software objects supervenes on machine instructions that move bits of information about in the computer, and even that level of description is just a vocabulary of convenience, because it supervenes on a description of physical switches that gate voltages through circuits. Each layer of higher-level talk hides the complexity of lower-level talk, for convenience, and ultimately all the talk hides the complexity of the machinery that underlies it all. Mind supervenes on the brain's machinery in the same way, it is supposed.

But there are problems here. One is that *explanation* is itself a mental activity. After talk of mental events is reduced to brain activity, we have eliminated the technique of reductionism itself, which is a *mental* idea. How does reductionism get reduced to biology in the absence of any remaining language of mentality? The reduction of reductionism would be an infinite regression: reflexive, self-referential, self-inclusive, like a snake swallowing its own tail. So the analogy between mind-brain reductionism and other reductive explanations of physical phenomena is inappropriate.

Also, in the computer analogy, the principle of reduction translates one physical activity, a person clicking on a mouse button, into a simpler description, that of voltages moving through some semiconductor gates but not others. At each lower level of explanation, more detailed complexity is revealed, but all of it involves physical descriptions and defined principles of transformation from one level to the next.

In the presumed reduction of mental events to brain events, we end up at the bottom with physical, neurological activities that have no demonstrated or even imaginable connection to the higher level mental events they supposedly explain. It's not just that the language has been simplified in the reduction, it has been changed, to refer to a completely different domain of phenomena. It is as if we said that mental events reduce to chess moves, so we draw a map of correspondences between individual mental events and particular chess moves. But how, exactly could mental events really be explained by chess moves? There is no plausible connection. That's the situation we have when we claim that mental events reduce to brain events.

Finally, if explanation (a mental activity) were reduced to brain activity, there would be nothing to explain and no one to explain it. There would be only brain activity. Surely the brain does not need to explain anything to itself about itself, because it *is* itself. The result of reducing mind to brain would be to negate the possibility of *any* explanation. It would undercut the possibility of reduction, and preempt all conversation. It's hard to see any advantage to that nihilistic strategy. So for all these reasons, I reject the idea that mental events reduce to brain events.

Double Aspect Strategy

Could the mind and the brain just be two different ways of talking about the same thing? Maybe the difference between them is only lexical, the way we use terms like "the morning star" and "the evening star" to refer to the same object (which is actually not a star at all, but the planet Venus when it is low on the horizon). This is an attractive idea, but it has two problems. First, it is not helpful, since the two domains of discourse, mind-talk and brain-talk, are essentially non-overlapping. Unlike the morning star and the evening star, they have no "star" in common.

If we insist that the aspects of mind and brain are just language, we avoid having to say what the two terms "really" have in common. We just keep the two kinds of language separate. That's a neat trick, but it does not advance our understanding about how they could be related, causally or even linguistically. It is just a hollow gambit that avoids the difficulty of deciding what the relationship between them is.

In fact, with double aspectism, we could not, in principle, ever know the reality to which mind and brain descriptions refer. In the case of Venus, astronomers have independent data that bring together observations of the morning star and the evening star, so we can agree that the terms actually refer to the same object. Likewise, for Clark Kent and Superman we can appeal to the neutral domain of biology, or, since we're not sure about Superman's biology, we can at least point to a set of independently observed human characteristics, values, and social contexts shared by both personas. Then we surmise, "Clark Kent is really Superman."

But is there any independent evidence *apart* from mental events and brain events that could point to the existence of some underlying mind-brain entity? There isn't, and how could there be? What language would you use to describe this alleged

underlying reality? You would have to use either mind-language or brain-language. There is no omniscient point of view from which to gather independent evidence. We are people with minds and brains and we cannot get to an “ultimate” neutral place where we are neither minds nor brains. So the double-aspect theory that supposes some underlying mind-brain “stuff” is fruitless.

Epiphenomenalism

What about the idea that the brain, a part of the physical body, happens to emit mental experience in the course of its activity? Mental experience would then be what philosophers call an *epiphenomenon*, a non-causal byproduct of brain activity. In this view, the mind is like the exhaust of an automobile engine, a waste product of no meaning or consequence.

We know that certain brain activities are correlated to certain mental activities. For example, damage to the left temporal cortex is usually followed by predictable mental deficits in understanding and producing language, so it seems plausible that the brain produces those mental events in some way.

We don’t understand how a brain *could* produce a non-physical object like an idea or a mood. In fact, it is not even allowed by the rules of science. For that reason alone, we cannot accept the idea that the brain produces mental events.

But the principle of epiphenomenalism says that the brain produces mental events as *non-causal* products. That gets around the problem that physical causation of mental events violates the laws of physics. Or at least it would, if it were anything more than a self-contradictory linguistic game. How could a brain *produce* something without causing it? What does “produce” even mean, if causality is not involved? If the

relationship between mind and brain is non-causal, they are unrelated, which contradicts the thesis of epiphenomenalism.

Besides, if mental phenomena really were really the meaningless waste products of brain activity, why would we pay any attention to them? The greatest speech, the most moving play, the finest poem, the wisest judicial decision, the deepest philosophy, the oldest human tradition – all of civilization, would be no more meaningful than a burp. There would be no point to writing this book, no point to reading it, no point to anything. Epiphenomenalism thus proposes absolute nihilism, including the negation of its own proposal. That is an absurd proposition that literally cannot be taken seriously.

Mental Origins

Where does the mind come from then? I don't know. My purpose here is to put forth an architecture of the normal, adult, human mind, wherever it comes from. I leave it to the cognitive neurophysiologists to solve the problem of mental origins if they can. I take the mind as I find it through observation of the human story, and try to understand its organization and operation.

So to be clear, this book's hypothesis about the architecture of the mind is about the *mind*, not the brain. Is it a scientific hypothesis? No, how could it be? I have just argued that science does not have access to the mind, only to the brain.

So is this an unscientific proposal then? A pure fantasy? Not that either. I have previously described a principled method for investigation of the mind called *empirical introspection* (Adams, 2010). That method is a "first-person" investigative procedure, an adjunct to, or extension of, the standard reasoning of science. It is the main method used in this essay to constrain descriptions and explanations.

Another is the principle of naturalism, a principle shared by scientific reasoning. That principle says that explanations can invoke only natural causes, no supernatural forces, such as gods or demons, and no inexplicable magic, either (see Adams, 2005; Adams, 2010). For this essay though, causality is not limited to physics. One idea can lead inexorably to another, as demonstrated by logic and mathematics. There is mental causation (Adams, 2005; Adams, 2010), a fact that can be confirmed by direct observation, using the method of empirical introspection (Adams, 2010).

To sum up then, what we have in this book is a proposed architecture of the mind that is not scientific, as we presently understand science, but neither is it straight philosophy or pure fantasy. Perhaps it could be called an empirically disconfirmable, quasi-scientific hypothesis.

Defining the Mind

There is no consensus among scholars about what constitutes a mind so it is hard to find a place to start, so the most basic axioms of this project must be synthesized from thin air. But it's also an opportunity to start fresh. I start with the obvious: the mind is what we discover when a normal, socialized person introspects. Anyone who cannot introspect would not be reading this book, because reading requires introspection.

When I talk about "the mind" I mean the human mind, unless otherwise stated. I believe animals have minds but I generally restrict my analysis to the human case, where at least I have some first-person data.

Mental Terms

There is no agreement among psychologists and philosophers about what terms are best for talking about the mind. I offer definitions here not to be authoritative, but to minimize confusion about what I am trying to say.

Mental Processes

A mental process is something that goes on in your mind, like thinking. I have to assume you know what I'm talking about when I refer to mental processes because there is nothing I can point to for clarification. When I asked you to consider whether the mind and the brain are the same or different, I was asking you to think. Apart from giving examples, there is nothing I can say to define thinking. We must simply stipulate that we know (more or less) what mental processes are.

There are many different mental processes. We can tell the difference among them even when their contents are related. For example, we distinguish anticipating lunch, remembering lunch, perceiving lunch and enjoying lunch. The main mental object, lunch, is independent of the mental process (remembering, perceiving, etc.).

Conversely, one mental process can address any number of different objects. We can think about cabbages or kings and it's all thinking. The process of thinking does not depend on what is being thought about. There are different ways to think. Balancing a chemical equation seems to be a different mental process than thinking about last night's dinner. Still, it's all thinking.

When we talk about the mind, we should be clear whether we are referring to mental processes or their objects (contents), because those are different, and both are

involved in every mental act. I use the term *mental activity* to refer to the complementary association of a mental process and its mental object.

How many mental processes are there? It seems the list would be large. Some experts would like to exclude feelings and emotions from a list of mental processes, calling them bodily expressions instead, but I disagree. Love and hate, for example, clearly have characteristics of being mental experiences even if they also have bodily correlates, such as increased heart rate. We mentally experience love and hate; they're not just events that happen in our muscles and arteries. In the same way, visual perception involves the eyeballs, which are body parts, but that doesn't disqualify perception from being a mental process.

Volition, the expression of intention, has traditionally been treated as something different from thinking, and maybe it is not thinking, but it is still mental, not a bodily process like sweating. Without trying to enumerate all the mental processes, we can just say that whenever there is mental activity, whether cognitive, emotional or volitional, there is some mental process going on.

Awareness

To be aware means to be mentally responsive to some condition. If you perceive your surroundings you are aware of them. You don't have to understand your environment, but if you perceive it, you are by definition responsive to it (perceptually at least). Mental responsiveness to the physical environment is also called *sentience*.

Mental responsiveness is variable and selective. At times we are mentally responsive to a certain situation, and at other times not. We can be mentally responsive to one set of environmental features but to not another set equally present. So mental

responsiveness need not be uniform or continuous, but when we *are* mentally responsive to some situation, that defines awareness of that situation, whether or not we explicitly conceptualize the situation or our own responsiveness.

Being aware of something without conceptualization is tacit awareness. It means you are responsive but do not and possibly could not express what you are aware of. An example is driving a car while daydreaming. You are tacitly aware of steering your car and of your surroundings, but you do not conceptualize any of it explicitly. If an emergency were to appear on the highway, you would presumably react appropriately, demonstrating that you were at least minimally aware of what you were doing.

We can be aware of physical things and nonphysical objects like ideas. If you are aware of global warming, that means you are intellectually responsive to a certain set of ideas that has been put forth in social intercourse. If you are not aware that narrow neckties are out of fashion, you are not responsive to that socially constructed fact and you might dress inappropriately. Awareness is mental responsiveness regardless of whether the object of awareness is physical, social, or mental.

You can't be aware without being aware *of something*, even if that something is vague and diffuse. Even vague awareness of your own existence is awareness of something. If you are alive and breathing, but your mind does not respond to anything, then you are not *aware* of anything. You might be unconscious, for example. In dreamless sleep you are alive but not aware of anything. So awareness is not the same as being alive.

Self-awareness

We can be aware of being aware, which is *self-awareness*. You can be mentally responsive to your own mental processes. You can tell, for example, if you believe something or just wish it. You can only make that distinction if you are self-aware.

Likewise, you can tell if you merely wish for something or actually remember it; if you are seeing something or only imagining it; if you are tasting champagne or only thinking about champagne, and so on. All those discriminations of mental activity require some degree of self-awareness, although not necessarily deep introspective analysis.

We know, or at least we can know, what we are thinking about. We can report if we have been thinking of Beethoven or Bolsheviks. How is that possible? It requires awareness of one's own mental processes, which I am defining as self-awareness. Self-awareness is required to report your experience.

In this definition, self-awareness means *mental* self-awareness. That includes social self-awareness, how we believe we are perceived or judged by others. To know how you are judged, you must reflect upon your mental experience in social situations, perhaps imaginatively putting yourself into the other person's place.

Being aware of your *body* is a marginal form of self-awareness, because self-awareness is awareness of your *mental* processes. Nevertheless, to the extent that bodily activity is correlated with mental activity, we can say at least that awareness of bodily activity is an indirect form of self-awareness.

Overlearned, automatic performances are thus ambiguous for self-awareness. We are not explicitly aware of them normally, but can become so. For example, when you speak, you might just say directly what's on your mind. There does not seem to be

any self-awareness involved. But we know that language skills were all socially learned, at great cost of time and effort, and it seems likely that to use such a complex set of skills competently requires continuous self-monitoring at some level of self-awareness, however obscure. You must at least know what you believe in order to blurt out your opinion.

Language skills are so overlearned that self-awareness is not an obvious part of them anymore, but, we know you must plan what you are going to say, select the words and grammatical structure you are going to use, and articulate the sounds correctly and in the right order. Those obviously involve mental activities, but we are not normally aware of them.

The same could be said for any overlearned skill, such as walking, driving, or throwing a baseball. We are aware of the object or the situation, and perhaps of our gross behavioral activity but not necessarily of our own mental processes. In such cases, we infer that self-awareness must be involved, or at least, that it was once involved, and could be involved again during the performance.

For most of us, explicit self-awareness is the exception, not the rule. It seems likely that most animals on the planet do not enjoy explicit self-awareness, yet they get along fine. Explicit self-awareness is optional even for us.

The Subjective Feel of Mental Processes

When explicit self-awareness does occur, and it occurs alongside of (or alternates rapidly with) awareness of some not-self object, the experience of that object has a subjective feel to it. That’s why the taste of lemon is qualitatively different from the

taste of orange. Philosophers sometimes call this “what it is like” to have that experience.

Not all mental processes involve that subjective feel. There is nothing it is like to observe a terrain, unless you become self-aware while you are observing. Normally, we just look and see the terrain, and continue walking, without awareness of what we are doing. We don’t think, “I am now observing this terrain,” but rather, we just observe it without any thought about our own mental process. Therefore, there is nothing it is like to perceive that terrain at that moment. The subjective feeling of having a mental experience is a product of being aware *and* being self-aware at virtually the same time.

Aboutness

All mental processes are *about* something, their object, or content. When you think, you think *about* some topic. To believe is to believe *something*. The same is true for imagination, hope, doubt, and all other mental processes. Every mental process operates on some object, or content. When I try to think without thinking of anything, the thinking process stops. That’s because a mental process must have an object. When a person “is aware,” they are aware *of something*, which is to say, they are having a mental processes about something, a mental object.

We aren’t always able to name, or even clearly discern, the object of our mental process. We might be anxious or nervous without knowing why. Anxiety is usually offered as an example of a mental process with no object. If you knew the object, you would call it fear, not anxiety. Yet even Freud, who defined the concept of neurotic anxiety, said that the object of the anxiety is a socially unacceptable id impulse hidden

from consciousness. So the anxiety does have an object after all. You just don't know what it is.

Sometimes diffuse mental states are about some aspect of bodily functioning not clearly discriminated. You might have a vague, indefinite feeling that could be traced to a drug, to something you ate, or to fatigue. The bodily effect is manifest in your mind, perhaps as a mood, but not conceptualized sufficiently to be explicitly objectified. Still, your awareness of a bodily discomfort or other condition, even if unconceptualized, is what your mental condition is about.

Some experts claim there are general moods or feelings that have no object. If I am "feeling depressed," I am not depressed about any particular thing. It is a global mood or disposition. Likewise, when I feel tired, it is not about anything. But these examples are misunderstandings.

Being tired, for example, is not a mental condition until it is recognized as such. We have all come home after a hard day's work, slumped into a soft chair, and said, "I did not realize I was so tired!" Well, you *weren't* tired until you realized that you were. Prior to that realization, your body was just in whatever state it was in, but you had no particular mental activity about that state. The mental condition of being tired is a conceptualization of a bodily condition. After you conceptualize your body's condition, you can compare it to remembered states in which you were alert, and then you can say, "I am tired!" That makes your fatigue the conceptual object your thought is about. Young children who cannot make such conceptualizations may insist they are not tired, then fall asleep almost in mid-stride in the middle of the room.

Global moods are about a poorly conceptualized feeling arising from a bodily condition. You can make the conceptualization badly, barely, or even wrongly, but that doesn't matter as long as you identify it to say that you have such-and-such a mood. Without conceptualization, the bodily condition remains bodily; not a mental experience at all. If you are depressed but don't know you are depressed then you are *not* depressed, from your own point of view. Somebody else will have to diagnose you by inferring your depression from your behavior. Later, in retrospect, you can say, "I was depressed," but that is a historical rewrite. At the earlier time, you were not depressed and did not experience depression if your mental activity had no object corresponding to depression.

Every mental process has some object it is about, and quite often the object is another mental event, such as an idea, image, concept, or feeling. There are no mental processes that have no object.

Intentionality

Intentionality is that quality of "aboutness" that characterizes the object-orientation of all mental processes. It is similar to attention, because when we "pay attention" to something we are directing our mental responsiveness (awareness) toward that object.

But intentionality is more basic than paying attention. Intentionality is the vector of interest or motivation that makes paying attention possible. It is the object-oriented quality of a mental process that gives it a directional character and what makes it about something.

Intentionality is related to one's *intention*, which is a plan or purpose for action. But intentionality is not exactly the same as intention. You might intend to go out to dinner tonight, but you might change your mind and end up not going. But in changing your mind, your mental focus still defines your intentionality. Your intention ended but your intentionality continued. Intentionality is the mental focus that makes it possible to form intentions.

There are other definitions of intentionality in philosophy, psychology, and linguistics, and some differ from the one I have given. I take my definition from a book published in 1874, *Psychology From An Empirical Standpoint,* by one of the earliest modern psychologists, Franz Brentano. We will see later why it makes sense to define intentionality as the directional *aboutness* of mental processes.

Consciousness

In ordinary language, consciousness and awareness are often used interchangeably. But we don't need two terms for the same thing. So I define consciousness as something different from awareness. I say that consciousness is a conceptual category.

Consciousness is the category of all mental activities we *could be* aware of. Being aware of a mental activity is self-awareness, so consciousness is therefore the category of all instances of self-awareness.

The definition lets me say that a person is conscious even when they are not self-aware *at the moment*. Perhaps you are involved in an intense sporting competition and you are totally focused on your opponent and hardly at all on yourself. We could say you are not very self-aware at that moment. But still, I can say you are conscious,

because you *could* become self-aware at that moment. I wouldn't want to say you are unconscious or non-conscious.

Is a dung-beetle conscious as it back-kicks its treasure up a hill? It is certainly sentient, physically responsive to its environment, and so probably mentally aware of the bolus it struggles with. My guess is that it has a beetle's mental awareness. But is the insect thinking, "Why am I doing this?" Probably not. I would guess that the beetle is aware, but not self-aware, does not appreciate its own mental processes, and probably never will. So I would say it is aware, but not conscious. Of course there is no way to know for sure what goes on in the mind of a beetle.

This definition of consciousness is somewhat unusual. Many philosophers and psychologists characterize consciousness as a basic force or energy in its own right (e.g., Chalmers, 1996). They hope someday to be able to detect and measure consciousness, just as we measure electromagnetism, for example. That is impossible, according to my definition, because consciousness is only a conceptual category, not something physical that can be measured. Just as you do not literally watch "sports" on television, but only specific athletic contests, "consciousness" is a label for all mental processes we can be aware of. With my definitions, what Chalmers wants to measure is mental responsiveness (awareness) or mental directedness (intentionality), or mental contents, but he will never measure consciousness.

It is also quite common in the philosophical and psychological literature to define consciousness as object awareness plus self-awareness, which is how I defined the feeling of subjectivity that accompanies some mental processes. By this narrow definition of consciousness, there must be "something it is like" to have a certain

experience before it can be deemed a conscious experience. All conscious experience, by this definition, must have a subjective feel. That kind of consciousness is also called “phenomenal consciousness” (e.g., Block, 1997). Awareness of an object or situation without accompanying self-awareness would not qualify as conscious activity for such theorists. Some of them (such as Block) therefore define another “kind” of consciousness for mental activity *not* accompanied by self-awareness. This, and other similar distinctions create confusion and debate about what counts as consciousness and what does not.

My definition, I hope, avoids much of that confusion by making consciousness a conceptual category, the category of all instances, actual and potential, of self-aware mental activity. Self-awareness, and awareness of not-self objects, are mental responsiveness to two kinds of object. When object-awareness and self-awareness occur in rapid alternation, virtually at once, there is a subjective feel, “something it is like” to have the experience, but that is not required for it to qualify as consciousness. You would still be conscious even if you were aware but not simultaneously self-aware, as long as you could, in principle, become aware of your awareness.

I sometimes talk about consciousness as if it were a mental process, but when I do, I am using the term as a shorthand label for the category of all the mental processes we *could* become aware of.

Unconscious Mental Processes

Are all mental processes conscious, or are there some we simply cannot become aware of? Maybe I was sad yesterday, but I am not sad today, so feeling sad is a mental process I am not aware of today. But it is still a conscious mental process

because I *could* become aware of it today, by remembering it. A mental experience is not an unconscious process just because I don't happen to be aware of it right now. There are a large number of mental processes I am not having right now. But I could have them and become aware of them, so they are conscious in principle. That follows from my definition of consciousness.

But the tough question is, are there mental processes that I cannot, in principle, become aware of, even if I wanted to? Those would be genuine *unconscious* mental processes. Are there any?

I have changed my mind on this question as a consequence of writing this book. When I began, I believed there were no unconscious mental processes, in principle. Yes, there are mental processes that we are not normally aware of, but that does not mean we could not *ever* become aware of them. So by my definition, all mental processes were, in principle, conscious, because we could become aware of them, given the right circumstances.

I considered bodily processes. Many bodily processes are not accessible to self-awareness, including kidney function, immune system operation, and brain activity. Are they unconscious? I have some awareness of the condition my bladder, but no consciousness of what my spleen is doing. However, *body* functions are not mental, by definition, so it is not helpful to call them *unconscious*. A doorknob is neither conscious nor unconscious. The same is true of my left foot. The term, "unconscious" should at least refer to mental events, not non-mental events, or it loses all meaning.

If I have awareness of some feeling I attribute to my bladder, that counts as mental activity directed to a particular (mental) feeling, which I have learned to

associate with a concept of bladder. That is all mental self-awareness. The bladder itself has no awareness. Is the mental experienced *caused by* tension in the bladder? Maybe it is, but that's beside the point. The experience of a full bladder is mental, regardless of what caused it. So again, considering such cases, I concluded that there are no utterly unconscious mental processes, not even those associated with bodily conditions.

What about the argument that some aspects of language processing are "hard-wired" into the brain, automatic, not-learned, part of a so-called innate language acquisition device (Chomsky, 1975). Those allegedly instinctive processes would be in principle not accessible to self-awareness. Are they genuine unconscious processes? No, because such a hard-wired device would be a *bodily* process, not a mental one, so it would not count as an unconscious *mental* process. Again, it does not make any sense to call bodily processes unconscious; that's like calling a coffee cup unconscious.

Didn't Freud amply demonstrate that there is unconscious motivation and even unconscious ("primary process") thinking? No he didn't, not using my definition of consciousness. What Freud demonstrated was the presence of mental processes that are not immediately available to casual introspection. It's true that sometimes we cannot become easily self-aware of certain mental processes, like hidden motives, even if we try. But that just means we have to try harder.

Libraries are full of books describing Freudian, so-called unconscious mental processes. What's in those books, if unconscious processes are unknown to us? If some mental processes really were irredeemably unconscious, we would not know of their existence and there wouldn't be books about them and we couldn't be talking about them now. So obviously, it is possible, in principle, to become aware of mental

processes that are not amenable to casual introspection. It just takes some effort. The whole point of psychoanalysis, after all, is to bring such processes to explicit awareness.

What most people call unconscious mental processes are simply those that do not yield to casual introspection. But they can, with effort, be brought to the light of self-awareness, so they are by my definition, conscious processes in principle. We can imagine a scale of effort describing the ease with which mental processes become available to self-awareness at a given moment. The scale would range from performing deductive logic (easily made self-aware), to a man's desire to kill his father and marry his mother (not easily made self-aware). But as for permanently, intrinsically unconscious mental processes, if there were any, we wouldn't know about them anyway so there is no point in assuming they exist.

That was my argument against the existence of unconscious mental processes. But after completing this book, I was forced to change my mind because of my analysis of the body. As you will discover, I propose that the human body is projected by the mind, a joint effort of the individual and his or her contextual community. I am not saying that the body is an intellectual fantasy, nor a subterranean psychoanalytic wish fulfillment, nor anything that an individual can be held responsible for. It is a projection from mental processes that are apparently beyond the reach of individual introspection, mine at least. As far as I can tell, these projective processes are undocumented. I have inferred the existence of such processes from other mental processes of which I am aware. The existence of the socio-mental processes from which the body is projected are therefore about as close to genuine unconscious mental processes as one can

imagine. They can be inferred, but cannot, to my knowledge, be made explicitly self-aware by any amount of individual effort.

For example, I propose that my heart beats as a consequence of some directed mental intentionality of which I am unaware. I can make my heart rate speed up or slow down, but I am not aware of any mental intentionality that makes it beat at all. The mental processes that make my heart beat, and my diaphragm move, and my kidneys filter, and my blood cells do all the things they do, those mental processes are utterly beyond the pale of self-awareness, as far as I can tell. They are genuine unconscious mental processes.

That follows from my thesis that the physical body is a consequence of mental intentionality. Without that hypothesis, we could just say that the beating heart is a bodily process, of no concern to an analysis of the mind. But once I had reluctantly come to the conclusion that the body is a projection of the mind, I had to allow that whatever mental processes does that work must be genuinely unconscious and can only be inferred from other observations.

Two questions arise from this proposal. The first is, if there are unconscious mental processes that constitute and maintain the body, how do I know about them?

The answer is, first, that I infer their existence on the basis of the structure and function of other mental processes of which I *am* aware. I described those processes in detail elsewhere (Adams, 2005, 2008) and I summarize them in this essay. So the genuinely unconscious mental processes that project and sustain the body are hypothesized rather than directly amenable to consciousness.

Also, there are some hints in the scientific, phenomenological, and philosophical literature of the possibility that the body could be a projection of the mind. Examples include phantom limbs and the placebo effect. I discuss those examples and others. So again, the hypothesized mental processes that project the body are inferred, but cannot be made explicitly self-aware, in principle.

A second question is, what difference does it make whether we say that the heart beats because of an unobservable mental process, or because of a biological process that is not accessible to introspection? Aren't those two explanations logically equivalent? There are two reasons to prefer the unconscious mental events explanation. The main one is that it is coherent with the rest of the thesis of the three-in-one mind described in this essay, whereas a biological explanation is much less so.

Also, biologists do not have a satisfactory explanation for why the heart beats. Much is understood about how it beats, but nothing about why it should. This is simply to say that we do not really have a satisfactory explanation of what makes something "alive" in the first place. So again, starting from the fact of mentality, which is directly known to us, it is more theoretically consistent to hypothesize unconscious mental processes rather than unknown biological ones.

So I now say there *are* genuinely unconscious mental processes, although they are nothing like id impulses, hidden motives, unconscious exercise of linguistic rules, implicit social cognition, or any of the other commonly proposed examples of unconscious mentality. In my view, all of those are amenable, in whole or in part, to self-awareness, either individually or collectively, albeit with some effort. By contrast, the unconscious mental processes that project and sustain the body are, as far as I have

been able to determine, virtually unavailable to individual or communal self-awareness in modern, western culture.

The Mind

We now have enough definitions to say what a mind is. The mind is a category, but larger than the category of consciousness. The mind is the set of all mental processes that one might exercise over the *long term*, whether accompanied by self-awareness or not. For instance, in deep, dreamless sleep, there are presumably no conscious mental processes going on; no thinking, perceiving, remembering, imagining, or dreaming. You are not aware of yourself or of any mental processes, and there is no behavioral or other reason to suspect there are any mental processes going on of which you could become self-aware. In other words, you are non-conscious at that moment.

Still, we don't want to say that you have lost your mind. You can be awakened and your consciousness would be restored. The mind is a category that persists over the temporary exercise or non-exercise of particular mental processes, and over periods of consciousness and non-consciousness.

A stone is non-conscious, but unlike a person, it cannot be awakened. It has no mental processes, not because it is asleep, but because it has no mind. A person has a mind even when they don't have their consciousness, because later, they will have consciousness again.

I'm not considering here the case of someone in a coma or a persistent vegetative state, who shows no evidence of mental processes. They may have certain kinds of brainwaves, but those measure bodily, not mental processes. We can't say for sure if the person has a mind, because we don't know if that person will ever wake up.

That is why such cases are so difficult to deal with. In the present discussion, I stay focused on the normal human mind, to keep things simple. If we can get the normal mind described, we can undertake to investigate abnormal cases.

States of Mind

Sometimes we experience global states of mind that affect all mental processes. Getting drunk is an example. When you're drunk, all the mental processes have a distinct character. Thinking while drunk is not like ordinary thinking. Memory is also affected, and emotions may be altered too. Of course the very reason people get drunk is to experience such global effects on mental processes.

There are many global states of mind, often called *states of consciousness*. These states of mind or consciousness are widely varied. There are various drug and alcohol induced conditions, reverie, the heightened awareness of fear, the concentration of prayer or meditation, the mental numbness that comes from repetitive routines, the narrowly focused attention of problem-solving, the fog of exhaustion, the disjunctive mood of free-association, the flow state of high performance, the disorientation of panic, the giddiness of joy, the blackness of depression, the confusion of rage, and on and on.

We can distinguish between specific mental processes, and global states that affect all mental processes. For example, thinking is a mental process, and you can think when you are sober or drunk. The quality of the mental process is different in each case, but the mental process is still called thinking.

Most states of mind are correlated to bodily conditions, such as fatigue, drugs, stress, brain abnormality, food, sleep, and so on. The mind is embodied, after all, and it should be no surprise that the condition of the body affects mental performance. If

someone drinks a tumbler of whiskey, we are not surprised if their thinking is impaired. It is an undeniable fact that the condition of the body affects the condition of the mind.

We don't know *how* a state of the body affects the state of the mind. For now, it is only important to acknowledge that the same mental processes can operate in qualitatively different mental states correlated to various bodily states. In this essay, we will be looking at the persistent and stable characteristics of mental processes, ignoring various transient global states of mind that give them a particular coloration. That will keep the discussion simple.

The Soul

Premodern theories of the mind were based in theology, and focused on the relationship between the mind and the soul, or spirit. *Psyche*, the root of *psychology*, derives from the ancient Greek word for soul. In western religions it is taken without question that each person has a supernatural or divine aspect, in addition to a body and a mind.

The relationship between the soul and the body is well-stated in religious doctrine. The soul inhabits the body and when the body dies, the immortal soul continues its spiritual journey. But it is less clear what the relation is between the mind and the soul. Are they the same thing, or different?

It is not a question we have to deal with in this essay. Modern, secular theories of mind do not consider the soul, mainly because there is no observational evidence for it, scientific or introspective. We can observe the body; we can observe the mind; but we cannot observe the soul.

If it weren't for introspection, belief in the existence of the mind would be no different from belief in the existence of the soul. There is no scientific way to detect or measure the mind, so how do we know there is such a thing? Fortunately for us, we happen to be capable of introspection. However, there is no analogous method by which we can observe the soul, as distinct from the mind.

This is not to say there is no soul. Its omission in modern analysis of mind is simply a pragmatic necessity. Modern inquiry is observation-based, so if the soul cannot be observed, there is simply no point talking about it in an empirically based discourse. Anyway, since at least the late 1800's the distinction between the mind and the soul has been the very definition of psychology, what separates it from philosophy and religion. At the present time then there is just nothing helpful that can be said about the soul that furthers a psychological investigation of the mind, so the soul will not be considered further in this project.

Three Kinds of Mental Process

Definitions are a hard way to begin an essay but we need a baseline vocabulary. Now we can understand, with some precision, the main thesis of this book, that each person has three different mental processes going on simultaneously. That is what I mean by the three-in-one mind.

A hypothesis about the mind (distinguished from the brain) is not open to direct scientific scrutiny, so what will determine the correctness of the three-in-one architecture is consensus (or lack of it) within an appropriate community of interest, after thorough discussion. This essay stimulates that discussion.