



An International Journal in Philosophy, Religion, Politics, and the Arts

Volume 3, No 2, Fall 2008

ISSN 1932-1066

Jaspers' View of Body, Psyche, and Mind in *General Psychopathology*, and Popper's Three Worlds

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Abstract: In general, metaphysical views are characterized as either monist or dualist. Interestingly, both Karl Jaspers and Karl Popper seem to have entertained what one might call "pluralist" views of reality. In the case of Jaspers, I will address his early views in *General Psychopathology* and in the case of Popper his later views as reflected in *Objective Knowledge*. Both thinkers discuss three separate aspects of reality. For Jaspers it is body, psyche, and mind. For Popper it is World 1 (physical world), World 2 (psychological world) and World 3 (world of culture). In both cases, two of the three aspects or entities are objective and one is subjective. Neither thinker takes a firm stand on the origin of such entities or aspects of reality. Popper tacitly assumed that they all emerge from the physical world without really asserting it to be the case. Surely, he believed that culture emerged from psychological reality. Jaspers is even more reticent to discuss origins in his early work but given his interests and influences he seems even further from materialism. The most significant similarity between the two thinkers seems to be the absolute irreducibility of the three realms, at least in terms of our normal cognitive capacities. Hence both pose serious challenges to monistic ways of thinking, whether physicalist or idealist.

In this essay I describe and analyze Jaspers' early view of body, psyche, and mind and compare it with the Three Worlds model of Karl Popper, a product of his later years. What is interesting about both of their theoretical or ontological views is the positing of not one (monism) or two (dualism) but three fundamental categories of being. There are important differences, however. We know that Popper was aware of Jaspers' work and he was the only "existentialist" that he had any respect for at all. I do not know, however, whether Popper was acquainted with the *General Psychopathology*. The fact that Popper's original academic credentials were in psychology and that his native language was German makes it likely, however, that he was aware either of Jaspers' psychological views or similar views that circulated in the German-speaking world.

Although Popper and Jaspers were very different kinds of thinkers, certain parallels can be noted. Both were intensely interested in science as well as philosophy and both originally were drawn to sciences of the human mind. Both distrusted scientific theories to an extent and were insistent regarding their fallibility and tentativeness. Both were extremely suspicious of utopian political programs and hyper-allergic to totalitarianisms of all kinds. Popper situated himself in the empiricist camp even as he distanced himself from both logical positivism and linguistic analysis. Jaspers was firmly situated in Continental philosophy and with concepts that were anathema and/or incomprehensible to Anglo-American philosophizing. Nevertheless, both found themselves, to a certain extent, misunderstood outcasts in their respective camps and this was the

case because they refused to limit themselves to prescribed worldviews. This is nowhere clearer than in Jaspers' early psychiatric work and Poppers' later theorizing, capped by his collaboration with Sir John Eccles, a neurophysiologist with decidedly religious views. Popper, however, was completely "unmusical" (in Max Weber's words) regarding religion, much more so than Jaspers (who had a deep appreciation for religious phenomena).

What is most strikingly similar about their views is the insistence on three realities that impact heavily upon the human person. For Jaspers it is body, psyche, and mind. For Popper it is matter (World 1), the psyche (World 2), and culture (World 3). Hence, the real difference seems to lie in Jaspers' mind vs. Popper's culture and the difference in orientation of the two thinkers may become apparent there. This will be discussed in greater detail anon. I will also argue that Popper's view has the promise of appealing to some on the fringes of empiricism who have as yet no appreciation for Continental philosophy. Jaspers' view, on the other hand, appeals to those with such an appreciation but who also utilize and are loyal to empirical methods in psychology and psychiatry.

I will restrict this essay to *General Psychopathology* and will not discuss Jaspers' later purely philosophical work. That should not be interpreted as a belief that he changed his position later on but only as a restriction of the scope of this essay. Indeed, it is my tentative opinion that the views presented here can be understood even more clearly with reference to *Philosophie* and other later works.

A Very Brief History of the Problem of Mind-Body Interaction

This problem has plagued philosophy from the very beginning. Plato considered the human soul to be somehow akin to and potentially cognizant of the eternal Forms (*Phaedo* 100). At the same time it is imprisoned in the body. Not only is it imprisoned, but it is also affected (even in future incarnations) and deluded by physical processes (*Timaeus* 44b). Aristotle, however, considered the human soul to be intimately related to its particular body as the very form and purpose of an animate and intelligent being. On the surface this seems to limit the soul to a particular, finite existence in this world. Although in his epistemology, Aristotle at times spoke of the acquiring of forms through perception and cognition. This is done in a superlative way through the "common sense," which

informs us of the evidence of the particular senses. Any sense, even those we share with the other animals, "has the power of receiving into itself the sensible forms without the matter" (*De Anima* 424a). He also spoke vaguely about an active intellect that is somewhat distinct (though not necessarily separate) from the human soul, as we know it. For example, he states: "The case of mind is different; it seems to be an independent substance implanted within the soul and to be incapable of being destroyed" (*De Anima* 408b). Augustine viewed the soul in a basically Platonic fashion but insisted upon a potentially direct relationship between the human soul and God, even if that potential was interrupted by original sin. Hence, the problem became reestablishment of the soul's knowledge of God rather than knowledge of a realm of impersonal, eternal Forms. Forgetfulness and recollection were replaced by repentance, yet the soul still remains a mystery to itself. Augustine was also a pioneer in stressing the interiority of human knowledge and consciousness. He employed the term "interior sensus" in a manner roughly equivalent to Aristotle's "common sense" but in a far more interior fashion.¹ Throughout most of the Middle Ages, the Platonic and Aristotelian views were harmonized by various Neoplatonized Aristotelian doctrines, often containing Augustinian motifs as well. The most innovative views were those of the Arabic philosophers such as Alfarabi, Avicenna and Averroes, who were influenced by Themistius and attempted to understand Plato and Aristotle from the perspective of the individual soul, something that the classical Greeks had ignored to a great extent.² The major innovation of the Arabic thinkers was the conversion of the inert Platonic forms into living celestial souls or intellects. This gave them active, living intellectual qualities, like the ones we ordinarily associate with the human psyche. While this may seem an unnecessary proliferation of minds in the universe, it obviates the problem of mind-body interaction to a certain extent. That problem becomes acute when the soul is viewed as *sui generis*, as exemplified in Cartesian dualism. The Arabic philosophers, on the other hand, assume that the human psyche has access to both highly powerful minds as well as its own

¹ See the *Confessions*, I, 20, VII, 17 and *De Libero Arbitrio*, II, 3-5.

² Richard Sorabji, *Self: Ancient and Modern Insights about Individuality, Life, and Death* (Chicago: University of Chicago Press, 2006) pp. 34-35.

body, since it remains intimately related to that body in an Aristotelian manner. The problem of psyche-body interaction is eliminated in favor of a more general problem of the relationship between cosmic intelligences and earthly or sub-lunar reality. This transformation of the human intellectual environment from abstract, inert forms to living intelligences set the stage for both Spinoza's one eternal mental/physical substance and ultimately the Hegelian *Geist*.

Unfortunately, some knowledge or even sympathy with Hegelian philosophy is necessary in order to understand the intellectual world in which Jaspers lived. I say "unfortunately," because many American and other English-speaking thinkers either know little of that trend in philosophy or are so allergic to it that they wish not to know. This will become more significant when we come to look at the views of Popper. Worthy of mentioning also are some of the Renaissance thinkers that impressed Jaspers greatly: namely Nicholas of Cusa and Leonardo da Vinci. Cusanus might be considered a late medieval German thinker but he was quite influential on the Italian Renaissance. Leonardo was influenced by Cusanus who, in turn, was influenced by Themistius. These thinkers emphasized on the individual qualities and powers of the human soul, and this was a great influence on Jaspers.

As we look at the human person endowed with mind and freedom we see the traces of an irreplaceable selfhood or at least of a unique individual. At some decisive point every individual is as it were, in theological language "created" from a source of his own and not merely a processing of a modified hereditary substance... Man as an individual mirrors the whole—at least so German philosophy since Nikolaus of Cusa has taught—and in him the world is presented in miniature; there is no substitute for him, he is unique. Far from being the sum of his hereditary factors (which would be quite correct for his material preconditions and determinants) the individual is "directly created of God."³

I would like to end this very brief excursus with a mention of Descartes and the British empiricists, best exemplified by Hume. Both of those thinkers are often thought of as skeptics and both seemed opposed to the medieval proliferation of substances and intelligences that I briefly described. Both have become heroes of sorts

to modern philosophy, though Descartes is severely vilified for his mind-body dualism. The key point I want to make is that both Descartes and Hume left human intelligence alone in the universe, with the possible exception of a rather remote deity. Their views were more influential on Popper than they were on Jaspers.

Two Contemporary Influences on Jaspers

A very formidable influence on Jaspers was Max Weber, the sociologist. Weber, however, would have called himself an economist and Jaspers thought of him as a philosopher. Weber's concept of social science would come to play a large role in Jaspers' concept of psychiatry and psychology. For Weber, empirical research and causal connections were important but equally important was the understanding of unique events.

The type of social science in which we are interested is an empirical science of concrete reality (*Wirklichkeitswissenschaft*). Our aim is the understanding of the characteristic uniqueness of the reality in which we move. We wish to understand on the one hand the relationships and the cultural significance of individual events in their contemporary manifestations and on the other the causes of their being historically so and not otherwise.⁴

The interest in "relationships and the cultural significance of individual events" is very different from the kind of science that is only interested in statistical data regarding large numbers of cases. It will turn out to require understanding of cultural traditions and ideals. Jaspers was also greatly influenced by the phenomenologist, Edmund Husserl, whose methods would be used in the investigation of individual cases. This allows for empathy regarding the human psyche. But such empathy also inevitably involves appreciation of cultural content. As Jaspers insists, there is "no psychological understanding without empathy into content (symbol, forms, images, ideas) and without seeing the expression and sharing the experienced phenomena" (GP 302).

Jaspers

In the introduction to his *General Psychopathology*, Jaspers describes what he calls the "somatic prejudice."

³ Karl Jaspers, *General Psychopathology* (Chicago: University of Chicago Press, 1964), p. 753. [Henceforth cited as GP]

⁴ Max Weber, "Objectivity in Social Science," in *The Methodology of the Social Sciences* (New York: Free Press, 1949).

Tacit assumptions are made that, like everything else biological, the actual reality of human existence is a somatic event. Man is only comprehensible when he is understood in somatic terms; should the psyche be mentioned, this is in the nature of a theoretical stop-gap of no real scientific value...

This somatic prejudice comes up again and again in the disguise of physiology, anatomy or vague biology. At the beginning of the century we would find it expressed as follows: there is no need to investigate the psyche as such; it is purely subjective. (GP 18)

As we will see, this subjectivity of the psyche is extremely important. Jaspers, of course, did not deny a connection between the somatic and the psychic, even if he was critical of some of the exaggerated claims that had been made in his own time. He advised that one could indeed practically speak of "parallelism or of interaction—usually of the latter" (GP 18). I don't think that Jaspers in *General Psychopathology* ever really makes a serious effort to resolve the mind-body interaction problem. This might occur to some as a major deficiency, but from another perspective it is properly in keeping with his goal of restricting himself to what is known (even if tentatively) and to avoid the kind of theorizing that restricts possibilities unnecessarily. Of course we must theorize (in the broad sense) in order to observe. This was clearly shown by psychologists such as Jerome Bruner. The failure to recognize that was one of the weaknesses of classical empiricism. But there are different kinds of theorizing. Some of it is dogmatic and restricting of human possibilities and some of it is innovative, tentative and liberating.

In the section entitled "The Psyche Objectified in Knowledge and Achievement," Jaspers makes the following claim:

Psychic life is perpetually engaged in the process of making itself objective. It externalized itself through the drive to activity, the drive to express, to represent and communicate. *Finally comes the pure mental drive, the wish to see clearly what is, what I am and what these other basic drives have brought about. This final effort to objectify might also be expressed as follows: What has become objective should now be comprehended and patterned into a general objectivity. I want to know what I know and understand what it is I have understood.*

The basic phenomenon of mind is that it arises on psychological ground but is not something psychic in itself; it is an objective meaning, a world which others share. The individual acquires a mind solely through sharing in the general mind which is historically transmitted and at any given moment is defined for him in a contemporary form. The general or objective mind is

currently present in social habits, ideas and communal norms, in language and in the achievements of science, poetry and art. It is also present in all our institutions.

This objective mind is substantially valid and cannot fall sick. But the individual can fall sick in the way in which he partakes in it and reproduces it... The essence of being human and of being a sick human shows itself in the way in which the individual appropriates structures of the mind to his own use and modifies them.

A further basic phenomenon of mind is that only that exists for the psyche which acquires objective mental form, but whatever has acquired this form at once acquires a specific reality which impresses itself upon the psyche...

Lastly, it is a basic phenomenon of mind that it can only become real if some psyche receives or reproduces it. The genuineness of this mental reality is inseparable from the authenticity of the psychic events that mediate it... (GP 287-288)

I would like to focus on the italicized sentences in the first paragraph. So far, objective mind is clearly the product of psychic events. But once a certain degree of objective knowledge or cultural activity has been established, "finally comes the pure mental drive."

That final mental/psychic event seems to come out of nowhere and perhaps is not the product of human psychic events alone. As a mental event it is objective but it is also a psychic event in so far as it is received by the individual psyche. What seems obvious here is that Jaspers as a psychologist might have liked to view almost all of mental reality as the product of human psychic events yet never states unequivocally that it is. He leaves room for something in the realm of mind that is not the product of the human psyche. This is extremely important. Without referring to subsequent works, we see a basic methodological and theoretical orientation at work here. In physical matters he seeks physical causes and explanations. In psychic matters he seeks both physical and psychic causes. In the realm of objective mental structures he seeks psychic causes but never rules out the possibility of other un-understood origins.

Jaspers actually goes further in differentiating objective mind from the human psyche even if as an empirical psychologist he must admit that the two always are perceived together.

At the point where our psychological understanding comes to a halt, we find something which is not itself psychologically understandable but a precondition for such understanding. Let us summarize:

In depicting connections that can be understood genetically, we always find: (1) we have presupposed a *mental content* which is not a psychological matter and which can be understood without the help of psychology; (2) we have perceived an *expression*, which brings an inward meaning to light; and (3) we have represented a direct *experience* which phenomenologically is irreducible and can only be statically produced as a datum.

We can have no psychological understanding without empathy into the *content* (symbols, forms, images, ideas) and without seeing the *expression* and sharing the *experienced phenomena*. (GP 310-311)

What does this say about mind, body and psyche and their ability to interact with one another? Again, Jaspers makes a mighty effort to restrict himself to the empirical facts and the phenomenological data but it should be obvious that every description of empirical facts pre-supposes some theoretical presuppositions. Regarding the relationship between psyche and body, he seems to take an Aristotelian position. But he also seems ambivalent regarding the relationship between mind and psyche; the psyche is "moved" by mind, but the latter is "carried along" by the psyche.

This intermediate status of our understanding throws some light on the old question of the psyche in its relation to mind and body. We see the mind as meaningful material content, to which the psyche relates itself and by which it is itself moved. We see the body as the psyche's existence. We never seem to grasp the psyche itself but either explore it as something physical or try to understand it as content. But just as the whole realm of the corporeal cannot be exhausted by the various physical phenomena which are biologically explorable—indeed, this extends right up to the body-psyche unity of expressive phenomena—so too the reality of the mind is linked to the psyche, inextricably bound to it and carried along by it. (GP 312)

Popper's Three Worlds Model

This model is actually a very simple one and will be described in a few pages. It is an alternative to the then fashionable monistic model as well as to Cartesian dualism, but more closely resembles the latter. Almost everyone is aware of Descartes' view that physical reality and mental reality stand starkly opposed to one another. Descartes attributed his fundamental views to his famous process of doubt. Popper, as well as his collaborator the neurophysiologist John Eccles, has been accused of Cartesian dualism. That is still one of

the worst things that one can be accused of. But his method differs radically from that of Descartes and, rather than ending up with two realities, he had three. Indeed, he said that one could have more realities if one so chooses.

Western philosophy consists very largely of world pictures which are variations of the theme of body-mind dualism, and of problems of method connected with them. The main departures from this Western dualistic theme were attempts to replace it with some kind of monism...

However, some philosophers have made a serious beginning towards a philosophical pluralism by pointing out the existence of a third world...

In this pluralistic philosophy the world consists of at least three ontologically distinct sub-worlds; or as I shall say, there are three worlds: the first is the physical world or the world of physical states; the second is the mental world or the world of mental states; and the third is the world of intelligibles, or of ideas in the objective sense; it is the world of possible objects of thought: the world of theories in themselves, and their logical relations; of arguments themselves; and of problem situations in themselves.⁵

The first two worlds, the physical and mental realities of Descartes, seem intuitively plausible for those who are not doctrinaire materialists; but World 3 strikes some people as strange. I don't think that Jaspers would have found it strange but he might also have thought that it did not go far enough. Popper developed the concept of World 3 well after *The Logic of Scientific Discovery* and there is no trace of this terminology in that work. But the concept can be viewed in the context of Popper's life-long struggle against subjectivism, which is quite evident in his early work.

The old subjective approach of interpreting knowledge as a relation between the subjective mind and the known object—a relation called by Russell "belief" or "judgment"—took those things which I regard as objective knowledge merely as utterances or expressions of mental states (or as the corresponding behaviour). This approach may be described as an epistemological expressionism because it is closely parallel to the expressionist theory of art. A man's work is regarded as

⁵ Karl Popper, *Objective Knowledge: An Evolutionary Approach* (Cambridge: Oxford University Press, 1972), pp. 153-154. [Henceforth cited as OK]

the expression of his inner state: the emphasis is entirely upon the causal relation, and on the admitted but overrated fact that the world of objective knowledge, like the world of painting or music, is created by men. This view is to be replaced by a very different one. It is to be admitted that the third world, the world of objective knowledge (or more generally of the objective spirit) is man made. But it is to be stressed that this world exists to a large extent autonomously; that it generates its own problems, especially those connected with methods of growth; and that its impact on any one of us, even on the most original of creative thinkers, vastly exceeds the impact which any one of us can make upon it. (OK 146-147)

World 3 must be understood in the context of Worlds 1 and 2. World 1 is the physical world and World 2 is the subjective inner world of man. Popper, like Jaspers, came to the conclusion that there is yet another "world": that of objective knowledge or cultural tradition. Popper makes it quite clear that he is not just referring to currently corroborated theories or points of view, but any bit of culture of which there is a permanent trace and which can be transmitted (OK 116-117).⁶ Thus, World 3 contains errors as well as truths! Here he seems to differ from Jaspers, who tended to locate errors in the psyche rather than in mind itself. Although the distinction between physical reality and subjective psychological reality was important to him, Popper felt that an even more common and dangerous mistake was the confounding of subjective psychological reality and objective knowledge. Of course, he recognized a connection between them—objective knowledge is the creation of human subjectivity and comes to impact it. In this respect his views coincide with Jaspers', though the latter left somewhat open the question of the ultimate origin of mind. Popper also argued that World 3 has no direct relationship to the physical world. I don't know what Jaspers would have thought of that.

According to Popper, Plato discovered World 3 but thought it was a heavenly, uncreated realm of Being. This, according to Popper, created not only epistemological problems but political and moral ones as well. The Platonic view led to the belief that an intellectual elite can indeed know what is best for the masses. But Popper, especially in *The Open Society and*

Its Enemies, insisted on the importance of freedom and on the fact that the experts cannot be trusted, because World 3 is full of errors. Jaspers was also distrustful of elites but seemed to locate the danger more in the human psyche than in objective knowledge. This raises a very important question. If World 3 is objective knowledge and if that world is full of errors, knowledge can be false. This seems intuitively implausible. But there may be a way of resolving this problem.

It would be contradictory to assert that a person knows a proposition that is indeed false. But that meaning of "know" refers to a kind of belief that must by definition be true. The noun "knowledge," as Popper uses it, does not refer to belief at all (not even to the object of belief). "Knowledge," in this sense, seems to refer to all of the propositions that could be validly concluded to be true given certain assumptions. But difficulties certainly arise with that view. When Popper describes World 3 as "ideas in the objective sense, it is the world of possible objects of thought: the world of theories in themselves, and their logical relations, of arguments themselves, and of problem situations in themselves," it is a little unclear which aspects of transmitted culture would actually qualify. Popper's definition is modeled after the methodology of mathematics, logic and science, and it is quite possible that certain parts of traditional culture would be excluded because of their lack of "logical relations." For example, many traditional religious beliefs probably cannot be conceptualized in a logical fashion. Other systems, however, like Christian theology or commentaries on the *Talmud* can indeed be conceptualized in that way. This logical characteristic, of course, has little to do with whether one accepts those systems or not. Nevertheless, it does seem to involve a normative view of culture based on the premise that the ability to reason is an *a priori* good. That may, indeed, be a normative view that most of us can accept, but it is important that we recognize it as an implicit assumption in Popper's thinking that restricts his domain of "culture."

Popper left open the question regarding the ultimate authorship of any of the worlds, but as far as he was concerned, World 3 is surely the creation of humanity just as beavers create dams. Popper very much wanted to connect his Three World model with evolutionary theory. He believed that biology, and not physics, holds the key to understanding human knowledge. A beaver's dam can outlast its creator and something in World 3

⁶ Popper recognized that his idea would strike many as metaphysical and dubious but defended it by drawing an analogy between the products of animals (nests, dams, etc.) and the products of the human mind.

can outlast its creator as well. It is this ability to last, exist autonomously and exert an independent influence that, perhaps, justifies calling it a "world."

Popper asks us to imagine the virtual destruction of civilization with or without any cultural records being left extant. Obviously, the job of rebuilding civilization would be greatly facilitated if some objective knowledge or documents remained (perhaps the Internet was originally created for that purpose). On the other hand, if the technology survived but the objective knowledge ceased to exist, humankind would still behave like savages and would be practically incapable of benefiting from the surviving technological infrastructure. The existence or non-existence of World 3 (whether in the forms of oral tradition, written documents or computer memory) is, therefore, of momentous import. World Three is autonomous; moreover, exerting power over its creator just as our legal system (which we created) exerts power over us.

Popper's insistence that World 3 is solely the creation of humanity in World 2 is open to dispute, as is his insistence that Worlds 1 and 3 are not open to one another. Jaspers' language of Transcendence might be more capable of resolving this problem than the somewhat doctrinaire empiricism of Popper. Recent developments in biology have led some scientists to believe that matter and culture are much more intimately related than Popper believed. This may have been a basis for some of his differences with Sir John Eccles, which will be described shortly. Nevertheless, those scientists and philosophers who have a religious bent are generally happy that an agnostic like Popper would be in agreement with them regarding the reality of objective ideas.

Subjectivists, of course, tend to view things completely differently and the argument could be made that objective knowledge is really reducible to human subjectivity (or inter-subjectivity). Popper insisted that this cannot possibly be the case and that such a belief is the source of numerous epistemological difficulties. He would argue that the distinction between World 2 and World 3 is the most important one of all and the one that (if accepted) allows for the solution of many of those difficulties. The following is one of his favorite examples.

Let us imagine a mathematical theorem (part of World 3) that entails a certain mathematical proposition that no one has yet discovered. That proposition is real (according to Popper). It exists nowhere in the physical

world (on no piece of paper or computer file) nor does it exist in the mind of any person. But it exists in World 3.

World 3 *appears* to reside at times in World 1 (as in a book) but the two realms really do not interact, according to Popper. World 2, however, interacts with both of the other worlds. This mediating function of World 2 is of great importance. Although World 3 is the creation of consciousness, it is also true that it has an incredibly powerful impact upon consciousness. In fact, one of the virtues of the Three Worlds model is its constant reminder of both the distinctiveness and interdependence of culture and consciousness. Hence, human subjectivity plays a key role in connecting the world of objective ideas with the physical world of action. Popper saw these three worlds as having implications not only for philosophy but for psychology as well. "I suggest one day we will have to revolutionize psychology by looking at the human mind as an organ for interacting with the objects of the third world; for understanding them, contributing to them, participating in them; and for bringing them to bear on the first world" (OK 156).

Popper's insistence on the distinction between World 2 and World 3 may help to underscore the reality of World 2. If we only have the first two worlds, there is a tendency to view the human mind as a derivative of the physical world. We see this tendency in classical empiricism as well as in modern behaviorism. There might also be a counter-tendency to view all of objective reality as subjectively constructed by the human mind. We see that tendency in classical idealism as well as in postmodern philosophy. By positing three realities rather than two, Popper's view undercuts both of those tendencies.

Popper's view, as I have tried to show, gives a great deal of credit to human subjectivity in the construction of theory and culture in general. Nonetheless, it seems to give special credence and pride of place to rationality, not so much in the actual construction of objective knowledge as in its evaluation and the critical debates surrounding it. This was a direct result of his Darwinian orientation. According to Darwinian theory, mutations are the result of chance but they survive (or fail to survive) based on their fitness *vis-à-vis* other organisms. Popper wanted to extend that process to culture as well. Recent discussions among scientists, however, have suggested that some kind of order may be inherent in matter itself, even when it appears most chaotic (complexity theory). If that view does indeed bear fruit,

we might have to amend Popper's model to include interactions between Worlds 1 and 3.

The Three Worlds in the Study of Mind and Consciousness

The relevance of the Three Worlds model to the philosophy of mind, neuroscience and the study of consciousness should require little in the way of justification since one of the three worlds is the world of psychic experience. We have already seen that the mind-body problem was a motivating factor in the creation of the model. In my view, its application to consciousness is quite primary and will have implications in a multitude of other sub-specialties of the human sciences.

Popper began to discuss this subject in great detail in his Emory lectures of 1969 and they have been published.⁷ The best known work in which Popper promoted his views regarding consciousness is his collaborative effort with the neurophysiologist Sir John Eccles entitled *The Self and Its Brain*. The arguments in that book are extremely wide-ranging and it is clear that Popper and Eccles are not always in complete agreement, no matter how hard they attempt to reach a consensus in the third section, devoted to dialogue. This makes the work even more valuable and it seems to me that this book is still one of the greatest resources in this area of inquiry. Three years before that book was published, Popper also engaged in some rather interesting arguments on this and other subjects with a number of modern thinkers (including Eccles), many of which have been published in *The Philosophy of Karl Popper*.

Disputes Regarding the Three Worlds

One very interesting dispute between Popper and Eccles regards the precise meaning of World 3. That dispute first emerged in *The Philosophy of Karl Popper*. Eccles, of course, was in general agreement regarding the three worlds. But he asks why one cannot consider long-term neural potentiation (long-term memory) to be part of World 3 just like a book or a computer file. Popper responds that it is not the book, as physical thing, that is part of World 3, but the cultural content or *meaning* of the book. The same could be said of memory, of course, and Eccles insisted that long-term,

reproducible memory can also convey World 3. But Popper disagreed. What is the difficulty here?

This dispute surfaced again in the dialogue section of *The Self and Its Brain* and it seems to involve Eccles' desire to view all interaction between the three worlds as a kind of causal interaction while Popper seems to envision some non-causal interaction between World 3 and World 2.

E: I agree completely with the statement that there must be causal openness of World 1 towards World 2, but I rather feel that a misunderstanding can arise if we speak about the causal openness of World 2 to World 3 by direct action. I would like to suggest that in between there is always inserted a step via World 1.

P: I would suggest that instead of saying that World 3 is encoded in the brain, we say that certain World 3 objects are recorded in the brain and thus, as it were, incarnated. The whole of World 3 is nowhere; it is only certain individual World 3 objects which are sometimes incarnated and thus localized.⁸

One certainly gets the impression that the two authors are talking past one another. Efficient causality is physical but World 2 and World 3 are immaterial. Popper sees no reason why there cannot be direct interaction without causality (at least of the ordinary kind). Eccles, as one trained in scientific methodology and attempting to render this view scientific, wants to find some "liaison brain" where the three worlds meet. Given these seemingly irreconcilable perspectives, it is quite remarkable that they do reach some sort of agreement. This occurs in a later dialogue after a discussion of Euclid's solution of the problem of the greatest prime number, which was accomplished by visualizing an infinite series.

P: Let me illustrate this by discussing Euclid's theorem, that for every natural number, however large, there exists a greater one which is a prime number; or in other words, that there are infinitely many primes.

The solution of the problem is that, if we assume that there is a greatest prime number, then with the help of this alleged "greatest prime number" we can construct a greater one.

There is something going on in World 1, but this process of grasping goes beyond what is going on in World 1; and this may perhaps be a reason to suppose that it is

⁷ Karl Popper, *Knowledge and the Body-Mind Problem* (London: Routledge and Kegan Paul, 1994).

⁸ Karl Popper and John Eccles, *The Self and Its Brain* (London: Springer Verlag, 1977), pp. 537-538.

really the Wernicke centre which contains some open modules; an opening of World 1 to World 2.

Yes, I am convinced that the Euclidean story indicates a direct relationship between World 3 and World 2. Now that I have fully understood it, it is very convincing indeed.... As a World 2-World 3 interaction, it is happening independently of the brain and then gets coded back on the brain.⁹

Despite the fact that Eccles now accepts a non-causal kind of relationship between World 3 and World 2 and begins to view it as a kind of self-exploration, there is still a problem. Self-exploration by the human mind, as a means of creative activity, still seems to presuppose a prior relationship between the psyche and World 3. Once this mysterious creative activity takes place, Eccles still insists that the results must be encoded onto the brain. But there is also a problem in that view in terms of the objectivity of World 3. Every reading of a book is different just as every arousal of memory is different: they are both, to a degree, re-constructions. The book appears to have an objective core, however, because we can make meaningful statements about different people's reading of the same book. The objective core that we consider crucial here is not the physical material of which the book is constructed but the language, and even more so the ideas or concepts which the language conveys. Long-term memory has an objective core in terms of neuronal connections but there does not seem to be something analogous to objectively available language and ideas, because memory can be read by only one person. So there is a problem with Eccles' view and perhaps one does need public access before it is fruitful to refer to World 3. But this also raises some difficulties with Popper's insistence that World 3 is "nowhere," because objectivity seems to require something somewhere that one can point to. If the memory expresses itself in an oral tradition, for example, one would have a genuine World 3 object. And it is not really the case that oral traditions are "nowhere." All cultural traditions can be placed somewhere, either temporally or spatially. Yet for a doctrinaire empiricist there is a difficulty placing things that are not physical. I do not think Jaspers would have had quite so much difficulty with that.

I think Jaspers and Popper would agree, however, that private psychic events are not "mind" or "culture"

(World 3). They must become publicly accessible first. Until that happens, long-term memory is something that resembles World 3, leads to it and is probably as close to it as one can get but does not quite qualify unless there were some independent public means of reproducing it. This also applies to creativity; a creative act does not really seem to be a part of World 3 until some criterion of acceptability is publicly available. For example, oral traditions existed for thousands of years, were encoded in long-term memory, and were certainly part of World 3, but since they were recited from time to time and accepted by communities, they were never the possession of only one person. Without this criterion of public acceptability, one might have to admit that a nonsense rhyme created and memorized by a child is a part of World 3.

Popper's Model Helps to Explicate Jaspers' Views on Mind

It seems to me that the kind of interaction that Popper had with Eccles might not have been possible between Eccles and Jaspers. Why is that? Eccles was a scientist steeped in the British empiricist tradition yet deeply religious and desirous of finding a place for spiritual values in a world of facts. He might have been intrigued by Jaspers' views but perhaps had no appreciation for Continental philosophy and its Hegelian overtones. Nonetheless, he was receptive to Popper's model, even if he had difficulty comprehending it at times. Popper's arguments can, therefore, be viewed as a way of introducing empiricists to a mental reality that Jaspers and others simply took for granted. It could also be viewed as a more scientifically palatable exposition of mental reality. Despite Popper's life long battle against subjectivism, his view of objective mind seems more subjective (in a sense) than Jaspers' view, despite the latter's greater interest in and appreciation for subjectivity. An objective cultural reality that contains errors seems metaphysically remote from Jaspers' mental reality that cannot become sick. This may stem from Popper's bias in favor of physicality being the only truly objective reality. Even his World 3, divorced as it is from physical reality, betrays the subjectivity of its creators. Jaspers would not necessarily disagree with that but seemed to view objective physical reality, subjective psychic reality and objective mental reality as manifestations of an even more transcendent reality. Popper, however, would have viewed that latter concept as outside the boundaries of both science and philosophy.

⁹ Karl Popper and John Eccles, *The Self and Its Brain* (London: Springer Verlag, 1977), pp. 548-551.