

Glocality of Self and Memory as a Possible Foundation for Understanding Psi

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Abstract. It is suggested that the glocal (harmonized global/local) model of memory and self provides a useful conceptual framework within which various empirical and anecdotal results regarding psi may be integrated.

1 Introduction

In a recent essay (Goertzel, 2009) I have outlined the concept of “glocality” as a novel way of thinking about the structure and dynamics of memory. In brief, a glocal memory is one in which memory items naturally occur in pairs: a localized item (the “key”) paired with a globally stored item (the “map”). I have argued that the human brain makes use of the glocal principle of organization, and that AI systems making use of glocality will tend to be more effective.

In this brief accompanying essay I present a more speculative possible application of the glocal memory concept: to provide an alternative to existing “filter models of mind” as a conceptual explanation for apparent psi phenomena such as precognition, telepathy, and remote viewing.

This is not the place for an in-depth discussion of these so-called “psi” phenomena and the complex evidence regarding their reality. In addition to the recent academic work by Kelly et al (2006), the text Cardena et al (2004) and other parapsychology texts, two recent careful but nontechnical discussions of the scientific data in this regard are given in (Broderick, 2007) and (Radin, 2006)¹. As the relevant data has already been expertly reviewed elsewhere, the question addressed here is a purely theoretical one: Supposing these phenomena are real, what might be a general, conceptually sound way of explaining them?

The ideas I’ll suggest here are not especially deep or detailed, and are more aimed at providing a clear conceptual foundation for further, more in-depth investigation. However, psi is an area in which so much confusion has been sowed by both proponents and opponents of the reality of psi phenomena, that taking a little time to try to lay down clear and simple possible conceptual foundations for understanding psi seems worthwhile.

¹ Radin’s book displays more confidence regarding a quantum-theoretic explanation of psi than I am comfortable with. However, apart from his proposed interpretation, his book also contains an excellent review of some of the empirical data in favor of psi; and he is a careful enough thinker and writer to separate the data from his high-level theoretical interpretation.

2 Filter and Transmission Models of Mind

Kelly et al (2006), after reviewing a great deal of interesting data regarding various psi phenomena, makes a case for “filter models of mind” as a possible explanation. I believe these are indeed a viable conceptual approach, but in my view they are not fully conceptually satisfactory in the forms hitherto presented. The main point I want to make here is that the glocal memory model provides a somewhat clearer way of conceptualizing psi phenomena, and connecting them with more traditional ideas in cognitive science. One might seek to view the glocal model of psi phenomena as a particular version of filter model, but I think it is simpler and sounder to view it as a closely related alternative.

Filter models differ from the conception of the mind currently prevailing in science in that they don't consider mind as situated in brain – rather, they consider the brain as a sort of “filter” that selects which aspects of the Universal Mind are associated with a certain individual. This is closely related to what has been called the “transmission” model. For instance, Strassman (2000) has used the metaphor that “the brain is just an antenna” – which is apt, however, only if one interprets it as meaning that “the universe broadcasts on all wavelengths, and each brain is a special antenna designed to pick up information on a certain unique wavelength.” Kelly et al draw a distinction between the filter and transmission metaphors, which is not entirely clear to me.

According to filter/transmission models of mind, psi phenomena are not terribly surprising – a lot of phenomena exist in the universe at large, and there's no reason the “antenna that is your brain at one moment” need pick up only information that is closely colocated with it in spacetime. In fact, in the filter view, the relatively minimal occurrence of psi phenomena in everyday life could be seen as surprising (i.e. the general question arises why our individual minds happen to filter *so much* out).

Myers, in his classic work *Human Personality* (1903; see Kelly et al, 2006 for a reprint), introduced the term “Subliminal Self” to refer to what I have above referred to as “Universal Mind.” Relatedly, Kelly et al then introduce the lower-case term “subliminal self” to refer to a non-conscious, coherent self within an individual mind – a different notion than the Subliminal Self which is supposed to be global and universal.

Cosmic Glocality

Glocal memory suggests a different angle on the transpersonal psychology of psi, closely related to filter models but with a different emphasis. Just as in (Goertzel, 2009) I propose to consider an individual mind as having an aspect that is distributed across the social, natural and cultural environment of the body associated with the mind (key = brain, map = distributed aspect), here I suggest it is plausible to consider an individual mind as having an aspect that is broadly physically distributed across space and time (key=brain, map=broadly distributed aspect). One might refer to this kind of glocality as “cosmic glocality.” In the cosmic glocality perspective, one

views each individual mind as existing in a broadly distributed sense, and then being mediated and guided rather than wholly created by the individual brain associated with it. Each of us is associated with a brain, but also with a nonlocal, distributed pattern of activity across other parts of the universe – a pattern that is dynamically coupled with our brain according to a complex feedback process.

The global part of the individual self, in this approach, is not quite as cosmic as Myers' Subliminal Self. On the other hand, it is different from Kelly et al's "subliminal self" in that its specific distinguishing characteristic is its nonlocality relative to the brain/body corresponding to the mind in question. In the cosmic glocality view, one isn't viewing the local part of the mind as an antenna for receiving the global part, nor as a filtered-down version of the global part; rather, one is viewing the global and local parts as two symbiotic portions of the same overallly intelligence, interacting synergetically in complex feedback relations to give rise to the mind as a whole.

One might pursue a version of cosmic glocality that is explicitly quantum-theoretic in nature, associating each individual mind with a broadly distributed quantum wave phenomenon, closely related to but not entirely controlled by or exclusively associated with a certain brain and body. Rather than relying on quantum physics as such, however, I prefer to think about "nonclassical physics" more generally. Clearly quantum physics explains key aspects of reality and among these is a kind of nonlocality not allowed by classical physics. However, contemporary quantum physics is in no sense a complete or final theory, as evidenced by its inability to integrate successfully with general relativity theory, and its inability to explain phenomena such as low-temperature nuclear reactions. The discipline of physics has a long history of overestimating the degree of completeness of its understanding. Quantum theory tells us that the universe displays kinds of nonlocality that go beyond what one would infer from looking at everyday physical reality, but I don't assume that it forms the last word regarding the kinds of nonlocality that may exist in the universe. What is clear is that cosmic glocality requires something beyond classical physics. Whether it requires something beyond contemporary quantum physics is not entirely clear because contemporary quantum physics is not fully understood; but I don't consider this an absolutely critical point, because it's already known that contemporary quantum physics is incomplete for other reasons.

Cosmic Glocality and Psi

Now let us get back to psi phenomena. In the filter model, the mind of an individual is an entity that is in a sense distributed in space and time – because it's the subset of the Universal Mind that is not filtered out by that individual's brain. In some variants of the filter model, this spatiotemporally distributed mind is an entity that exists outside of space and time, but has the ability to come into direct contact with various, potentially widely distributed points in the spacetime continuum. In other variants, this mind is a set of patterns in material that exists in spacetime; but this material is hypothesized to be strange quantum-type or quantum-gravity-type material that has nonlocal properties that are counterintuitive according to everyday

commonsense reality. Either way, the nature of the explanations provided for anomalous phenomena are roughly the same. For instance, precognition results are explained by positing that some small parts of the mind doing the precognizing exist in the future of the main part of the mind doing the precognizing. Remote viewing is explained by positing that some small part of the mind doing the precognizing exists in (or in direct contact with, enabling direct interaction with) the remote location being viewed.

In the cosmic-glocality approach, psi is explained similarly but a little differently. The local key is the set of patterns in the brain associated with a mind, and the global map is the nonlocal distributed set of patterns associated with a mind. Whether one views this nonlocal distributed pattern-set as a “filtering of the Universal Mind” or not is really beside the point. The key point is that spatiotemporally nonlocal patterns are assumed to be coupled with one another via a shared role in giving rise to further emergent patterns.

What does it mean for a set of coupled, mutually nonlocal patterns to collectively form a coherent mind? According to the patternist approach roughly outlined in (Goertzel, 2006), what it means is that it makes sense to view this set of patterns as maximizing a complex function coupled with a complex environment.

Cosmic glocality’s qualitative explanation for psi phenomena is then roughly the same as in standard filter models: the “distributed map” component of set of patterns that is your mind need not be spatiotemporally localized. But there are also some subtle differences in the explanations provided by the cosmic glocality approach. It doesn’t predict anything extremely specific, but it does make some qualitative predictions that agree qualitatively with well-known aspects of psi phenomena.

For instance, consider the correlation between keys and maps, the defining principle of glocal meory. According to this principle, the patterns in the map component of the cosmically glocal mind should be fuzzier but broader versions of the patterns in the key component. It will be rare for something to emerge in the map component that has no inklings in the key component. This provides a plausible conceptual explanation for some aspects of psi phenomena, such as the generally greater ease of experiencing psi regarding personally important phenomena than other phenomena. Generally speaking, what’s more intense in the map component is going to be closely related to what’s more intense in the key component.

Further more, in any glocal memory, keys that have strong similarity are likely to have overlapping maps. This provides an interesting qualitative explanation for phenomena such as the numerous reported instances of telepathy between physically separated identical twins. The twins have highly similar keys (brains) hence overlapping maps. An event on the key level of Twin A has an impact on the map level of twin A, which affects the map level of Twin B due to map overlap, which in turn affects the key level of Twin B.

Of course, these explanations are not going to be altogether convincing to anyone with a hard-nosed scientific mindset (a category in which I include myself!), because I have not provided any detailed concrete grounding for the “cosmic glocality” idea. I have merely provided some hand-waving about “quantum-type wave phenomena” and the possibility of as-yet unknown physics. However, this would not be the place for further speculations in this regard. My goal in this section has been merely to outline a glocal memory based alternative to the filter model of mind as a potential

conceptual explanation for psi phenomena. I will present more specific, but more speculative ideas along these same lines in a follow-up paper; but here I wish to emphasize that the overall correspondence between psi and glocality need not stand or fall with any particular hypothesized underlying physics.

AI, Psi and Cosmic Glocality

It seems worth briefly digressing to deal with a contradiction some may perceive between these ideas and some of my previous work. In (Goertzel, 2009) the application of glocal memory to AI is discussed, in the context of AI systems (the Novamente Cognition Engine, and OpenCogPrime) that are aimed at the ambitious goal of artificial general intelligence at the human level and beyond. These AI systems are digital computer program, but in this essay I have discussed the possibility that minds (at least in their map aspects) could be some sort of spatiotemporally distributed quantum wave phenomenon, or something dependent on even weirder physics. If you've read Roger Penrose (1997) or other sympathetic thinkers, you may be wondering: "Isn't there a contradiction here?"

In other words, you might wonder: "If minds are quantum wave phenomena, then how could a digital computer program be associated with a mind? Doesn't this mean that human intelligence is tied to quantum phenomena in the brain, and digital computers can't be truly intelligent?" Penrose has argued that human intelligence is specifically tied to (unspecified) non-local quantum gravity phenomena in the brain, which cannot be replicated in digital computers for reasons of fundamental physics. He has not however provided any detailed theoretical physics grounding, nor empirical data, for this hypothesis; and nor have any other proponents of this point of view.

In short, I don't agree with Penrose and his ilk on this matter. I see no strong reason why – according to some hypothetical future physics of the sort that Penrose envisions -- a digital computer program couldn't be nonlocally coupled with a widely distributed "post-quantum wave function", even though it doesn't internally operate based on macroscopic quantum nonlocality (in the manner of, say, a Bose-Einstein condensate). AI programs are complex systems that no human can pragmatically predict in detail, and (to throw one speculative idea out there) there may be more overlap between pragmatic computational indeterminacy and physical indeterminacy than our current physics theories recognize. There is an awful lot that we don't understand regarding fundamental physics and the observational coupling of complex systems with their environments, and I suggest to keep an open mind regarding various possibilities. At the moment I advocate to explore the AI and cosmic-glocality aspects of glocal memory theory separately (the former being quite concrete, the latter quite speculative), but in future there may emerge reason and opportunity to fuse them together.

Final Remarks

Affixing the label “conclusion” to the final remarks in this particular essay would have seemed wrong because there is nothing at all conclusive about the ideas presented here. This is not the time for grand theoretical conclusions about psi, as related to glocality or anything else. But it is the time for moving forwards toward greater understanding of psi, via stepping up the pace of the already ongoing empirical work, and toward this end I believe some level of exploratory theoretical analysis is useful.

My own view is that the available evidence in favor of psi is extremely strong. I came to this opinion after about 2 weeks of systematically reading selections from the peer-reviewed literature, guided largely by following up the references in (Broderick, 2007). Within the scientific and rational paradigm, one can never be 100% convinced of anything; but I am personally about as convinced of the reality of psi as I am of the reality of, say, quantum indeterminacy. It’s always possible that some statistical oddity or some massive fraudulence is possible for the observed psi results ... and, analogously, it’s always possible that further experiments will reveal some deterministic layer underlying apparently indeterminate quantum reality. But, at some point, in practice, one must stop acknowledging the ultimate unknowability of the world and take seriously what the observed data seems to be saying.

Above all, I am firmly convinced that the extant evidence is strong enough to merit significant expenditure of financial and cognitive resources on further investigation. The parapsychology research community is overall moving in the right direction by running more and more experiments with rigorous designs, and systematizing and rigorously filtering the previously gathered evidence. But the miniscule amount of financial and attentional resources presently being devoted to these issues is absurd and sorely regrettable given the foundational nature of the phenomena in question.

If psi is indeed a real phenomenon, the currently fashionable paradigms for modeling and studying the mind will need significant expansion and modification. The patternist perspective as outlined in (Goertzel, 2006) can easily encompass psi phenomena, but the emphasis – the sort of patterns that one focuses on – will have to change, away from focusing on patterns immanent in individual brain, and focusing more on patterns correlated with brains but immanent in other parts of the world in a more globally distributed way. The concept of glocality, I suggest, may be useful in conceptualizing mind in a psi-friendly way, without the need for evocative but only partially appropriate metaphors such as filters or transmitters.

If the notion of glocality has anything to offer those doing empirical psi research, perhaps it is an encouragement to somehow focus on the broader context in which a psi experiment is done. Unfortunately this is a challenging thing to measure. But, if psi turns out to be about the global patterns that the local patterns in our brains “unlock,” then it follows that the way to understand the nature of psi is to pay attention to the global context as well as the local patterns. The possibility is there that a broad variety of other factors in the universe could impact the success or failure of any given psi experiment. If psi is reflective of an order of global interconnectedness that modern science tends to deny (in its understandable quest to

reduce as much of reality as possible to localizable, repeatable experiments), then drawing as much of this interconnectedness as possible into the experimental paradigms used to study psi could potentially be a useful strategy.

As a single, perhaps off-the-wall example, consider remote viewing experiments, in which one individual is asked to visualize the location another person is traveling through, without any apparent means of information transmission (see Broderick, 2007 for pointers into this literature). It seems conceivable that the success or failure of a remote viewing experiment could be dependent on trends observable in online news related to the functions of the regions the person being viewed is traveling through, and the relationship of this news to the past history of the person doing the viewing. Conceptualizing psi as an epiphenomenon of a complex web of global/local interdependencies opens up a broad spectrum of possibilities, the study of which will doubtless take a long time and a lot of work.

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