



A Symbol in the Truth of Things

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This article addresses the question of whether the soul has substantial reality from the perspective of Jungian psychology and contemporary physics. It is a response to Daniel Anderson's article, "The Soul's Logical Life and Jungian Schisms." Where psychology and physics have progressed the farthest into the unknown dimensions of psyche and matter, they have both conjectured that there is a symbol in the truth of things. I explore this idea as it appears in Romanticism, Jungian psychology, and physics, particularly in Jung's correspondence with Wolfgang Pauli. My conclusion is that the unconscious psyche is not exclusively methodological but also has substantial reality identical to the unknown dimension of the microphysical world. Both the unknown dimensions of psyche and matter are visible and comprehensible to us only through symbols. The first-ever direct observation of the wave function of a hydrogen atom in 2013 is used as an example.

On the one hand, we have the living impression of pneumatic Christendom, that is, the Christian world view, while on the other hand, we have scientific materialism. And that is the well-known conflict between faith and knowledge which we are in. And now the question here is what is the unconscious doing now? (Jung, as cited in Schweizer & Schweizer-Vüllers, 2016, p. 179)

In my role as one of the editors of *Psychological Perspectives* I attended our meeting of the editorial board in June of 2019 and January of 2020. Part of the round of submissions for those two meetings included a number of articles on Wolfgang Giegerich. In both of these meetings I was a bit shocked at the emotional response that these articles generated. The responses ranged from repulsion to an intense feeling that here was something important, even crucial to the future of the field. In Daniel Anderson's article he quotes Giegerich (2013), "The result of my analyses may in many cases appear to be devastating" (p. xi).

Not being an expert on Giegerich's writings but having some exposure to the general debate, I failed to understand these intense reactions, either positive or negative. In the January *Psychological Perspectives* Board Meeting I asked one of our members who seemed to regard Giegerich as important to help me understand why. What I heard were ideas that seemed familiar to me from Jung. God is dead and has become psychology. God has come back to earth. Nature and spirit are no longer opposites but are returned to psyche which surrounds us on all sides and has nothing outside of itself. The soul is inseparable from meaning, is communal, changes with time according to its own pattern, is historical and self-evolving. The soul is real, the greater part of the soul is outside the body, the soul is not a subjective soul, the soul is located today in technology, especially the nuclear bomb. As I explored these ideas through Anderson's article



Victor Raphael & Clayton Spada, *Primo*, 2012.
 Pigment inks on watercolor paper (inkjet print);
 Dimensions: Image: 20 × 25 in.; Overall: 24 × 30 in.

and some of Giegerich's writings, I could see that Giegerich had extended and unfolded Jungian ideas in a creative and intelligent way, but I could see neither the revelation that breathes new life into the field nor the devilish destruction.

I volunteered to write a response to Daniel Anderson's article in large part because I wanted to find out what all the fuss was about. Being in dialogue with Anderson seemed the perfect way to go about this. Anderson has spent the last decade or so in a deep dive into Giegerich's writings, has been in personal correspondence with him, and is involved with the Center for Psychology as the Discipline of Interiority. As he puts it in his article:

I have been studying Giegerich's work now for 10 years. His work in general and *The Soul's Logical Life* in particular has changed my perspective on psychology and psychotherapy in profound ways, especially considering that I started out my Jungian journey by training at a "Bollingen" training institute, the Research and Training Centre for Depth Psychology according to C. G. Jung and Marie-Louise von Franz. (Anderson, 2021, p. 47)

An interesting fact is that Anderson and I both trained at the Zentrum, as The Research and Training Centre for Depth Psychology according to C. G. Jung and Marie-Louise von Franz is colloquially known. We both attended at the same time over fifteen years ago. I had not caught up with him since, and I looked forward to interacting with him again on a personal level as well as catching up on how Giegerich's ideas have helped him "especially considering" his training at the Zentrum.

Anderson lives in Los Angeles and I live in Goleta, a bit north of Santa Barbara up the California coast. I convinced him to meet me at Union Station in Los Angeles so that I could take the train and avoid the drive. We had a really enjoyable three or four hours digging into his article in a restaurant in that beautiful old Los Angeles art deco era train station. In addition, I emailed him some of my thoughts afterwards and we had an interesting back-and-forth. Talking with Dan was fun. My first question, stealing the last line of his article, was, "What new beginnings to Jungian psychology do you see evolving from Giegerich's theoretical framework?" This was the question that interested me; I sensed that many people felt Giegerich's work opened up new pathways in the field of Jungian psychology, but I did not understand what these were. I appreciated Anderson's intelligence, clarity, and also his time in giving me a very well-informed account of what Giegerich is about and what is so important to him personally about Giegerich's writings. It is an enjoyable privilege to have the chance to dive deeply into a colleague's article that is clear and articulate and take the time to respond to it.

I want to emphasize that, while my response to Anderson does involve an exploration of Giegerich's ideas, I limit myself here to Anderson's interpretation. I have not read all of Giegerich's writings and do not consider myself an expert. Think of me as an interested party looking around.

As mentioned earlier, at first I found nothing new in Anderson's account of Giegerich or my own readings of Giegerich's work that I do not find in Jung, nothing to disagree with either. The identification of the soul with meaning, yes, the capacity to participate in shared meanings, yes, the self-unfolding of the soul in a process of shared cultural development (i.e., the soul's logical life), yes, Jung's *Aion* is a brilliant description of the unfolding of the soul's logical life in cultural history. Later on, as I read through more of Giegerich's own writings, my response was much the same. The alchemical dictum that the greater part of the soul is outside the body? Sounds good.

The soul changing itself through self-negation? For sure, thus the die-and-be-reborn motifs that are central to all of Jung's mythological and psychological studies, especially his alchemical studies. And the major example of this process of the soul's self-negation being the death of God as the event that preceded the modern discipline of psychology? Absolutely. The death of God is central to both Jung's personal journey, most vividly expressed in *The Red Book*, as well as his professional theorizing that the modern discovery of the unconscious only becomes possible after the stars have fallen from heaven. All of these ideas are central in Jung. I could give quote after quote, but I do not think that is necessary. Although Anderson (2021) asks us in his article, "Is this a critique or a destruction of Jung?" (p. 41) as I read up to this point, I found myself thinking: "Where is the critique? Let alone the destruction?" I was not aware of feeling an intense emotional reaction one way or the other.

For me, the critique began with Anderson's use of Donald Kalsched as a spokesman for what Anderson (2021) experiences as two common standpoints in the field of Jungian psychology that he disagrees with. The first is Kalsched's allegedly one-sided definition of soul as exclusively "a good soul, beautiful" (p. 35). Having read and taught Kalsched's books, written a review of *Trauma and the Soul* for *Quadrant*, as well as knowing him personally, I have not experienced this alleged definition as Kalsched's point of view. Kalsched's books are not *only* about the beautiful side of the soul but also about the dark side of the soul in trauma and the archetypal defenses against trauma that split light and dark. While it is difficult for me to understand why Anderson identifies Kalsched with the one-sided position that soul is only found in all things bright and beautiful given the context of the scope of Kalsched's work, in any event this is not a critique that can reasonably be applied to Jung, nor does Anderson do so. Jung was the *last* person to see soul only in all things bright and beautiful!

Here I did personally engage in a feeling experience of what all the fuss was about, so to speak. Later on, in reflecting on my reaction toward this part of Anderson's article, I could tell that my emotional response lay partly in Anderson's use of Kalsched, whom I know personally, to illustrate an idea and not in the idea itself. At the same time, I could recognize a familiar tendency in myself toward sunny optimism and a concomitant resistance toward the recognition and admission of the abject black dimensions of the soul, despite whatever Kalsched and/or Jung might have personally felt within themselves. "If there is a tendency in some Jungians," I originally wrote, "to do this, then I agree with Anderson that this tendency is off base." Now I would phrase it this way: my own tendency to defend against the dark dimensions of soul was constellated in reading this section of the article. The fuss, I began to understand, lies not so much with the ideas, but with the emotional limitations and accompanying defenses, including projections, that the ideas generate in us. The human, personal, experience can include reactions of anger concerning perceptions of bad faith, judgments of pitiful stupidity, defenses against feeling stupid, narcissistic wounds (not being seen), and the accompanying emotions triggered through projective identification with abject dimensions of the self that have been unconsciously discharged into the field of relationship. I began to understand that if I truly wanted to explore the issue of what all the fuss is about, I would have to do so as a psychologist interested in symptoms as well as a philosopher interested in ideas. While it may seem obvious in hindsight that a Jungian analyst, such as myself, would come to this conclusion, it took me a while, and some reflection, to land here. There is a strong human reaction against doing the work of psychological reflection that never ceases to amaze me. That is, work on ourselves; we are all "experts at" reflecting on others.

Anderson's second critique is that Kalsched, who I interpret in this context as a kind of proxy for what Anderson perceives to be a general tendency in Jungian psychology, waffles on the question of whether or not the soul has substantial reality—a question that, for Anderson, is identical to the question of whether or not the soul has metaphysical reality. This second point seems to me to be the main point in Anderson's article. Jungians, following Jung himself, often have a definition of soul that is psychological, but metaphysical beliefs, assumptions, and practices creep in in ways that are incongruous with that definition. The practical problem is that this leads to a dishonest playing of both sides of the fence. Jungians, again following Jung, can seem to believe in a metaphysical reality; but if confronted, there is plausible deniability because their explicit definition of soul is either vague enough to not pin them down or explicitly inconsistent with their de facto metaphysical assumptions. This hidden mysticism is rarely acknowledged openly by Jungians and therefore cannot be explicitly addressed.

Anderson believes that the splits and schisms within Jungian institutes have a lot to do with this problem of hidden metaphysics. Anderson uses Bollingen and Küsnacht, Jung's two—very different—homes, as metaphors for a split in Jung himself. In Anderson's experience, some institutes—for example, the von Franz Zentrum that we both attended—are Bollingen institutes, in Anderson's language, orthodox or classical or, for some, fundamentalist institutes, that implicitly reflect Jung's hidden mysticism while at the same time overtly denying it; other institutes are Küsnacht institutes, psychologically modern institutes, that instinctively recoil against that hidden mysticism. Since mysticism and metaphysics, in Anderson's view, have no place in modern psychology, the value of Giegerich's work is that his distilled and clarified interpretation of psychology as the discipline of interiority purges Jungian psychology of its metaphysical dross and affirms it as truly modern.

When stated as coolly and abstractly as I just have, there is nothing here to generate any fuss per se, only a proposition to be considered and, if possible, clarified. About halfway into Anderson's (2021) article, however, he asserts that "Jung actually sees soul in metaphysical terms, but denies this" (p. 42). I can now see that the way Anderson phrases this argument generated some fuss for me. In part, my reaction was due to the fact that Anderson makes his argument personal to Jung himself in a way that made me feel as if he were accusing Jung personally of bad faith. Although I was not aware of my own reaction or the reasons for it at the time, I recognize now that my perception that Anderson accuses Jung of bad faith turned out—by coincidence—to be the very accusation that, in the first draft of this article, I lobbed back like a hand grenade at Anderson! You might guess that my insinuating that Anderson is operating in bad faith did not go over very well nor do much per se to promote further dialogue until we could adequately address the hand grenade part. Putting these types of personal reactions and accusations aside as much as possible, while still recognizing that they were and probably are still to some extent present and simmering below the surface, I would like to respond to Anderson's central assertion—the question of hidden metaphysics in Jungian psychology—in the remainder of this article. But before I do, allow me to first briefly, without a lot of fuss, address some aspects of Anderson's supporting arguments that I do not agree with.

Anderson (2021) supports his contention that "Jung actually sees soul in metaphysical terms but denies this" (p. 42) by pointing out that Jung consistently uses the term *God-image*. "It is exceedingly difficult," Anderson writes, "to see how Jung's identification of the Self with the '*God-image*' does *not* have metaphysical connotations" (p. 43). It is true that Jung uses the term *God-image*. But I would put it exactly the

other way around: It is exceedingly difficult to see how Jung's use of "God-image" to describe the Self could possibly have any metaphysical connotations. The whole point, it seems to me, of adding "image" to the word "God" and then equating the God-image with the Self is to say, "I do not mean God." Both of Jung's terms, "God-image" and "Self," are deliberate attempts to *not* connote something metaphysical. Obviously, Anderson does not see it that way and it is an interesting psychological question to wonder, why the difference in perspective? Perhaps we will take another trip to Union Station to further discuss the basis of these different impressions; they might be relevant to the type of conflict that lies behind the splits in training institutes that Anderson is concerned about.

Anderson also relies on Giegerich's argument that the word "archetype" syntactically implies an imprinter to support his contention that Jung actually sees soul in metaphysical terms while at the same time denying this. Giegerich's argument is that the word archetype "already entails at least syntactically the metaphysical assertion of 'God' (or some other imprinter), even if semantically the question is left undecided." I agree with Giegerich's analysis syntactically, but I would emphasize what Giegerich parenthesizes, namely, his phrase, "(or some other imprinter)." That "some other imprinter" leaves space for a non-metaphysical imprinter, for example, the collective unconscious. I also agree with Giegerich's observation that semantically the question of the substantial reality of the soul is left undecided.

Anderson, however, goes beyond Giegerich's point about syntax in a much more forceful and conclusive way. He claims that "Jung can only be talking about a God here [in *Answer to Job*], not a 'God-image,' because he describes God's behavior, actions, and essential nature." Two things come to mind. First, is not Anderson now implicitly acknowledging that there is a difference between God and a God-image? Second, does the fact that Jung talks about God's behavior and actions really give Anderson, or any of us, insight into the ontological status of God in Jung's mind? If I write about Harry Potter's behavior and actions, must I *only* be talking about a metaphysical Harry Potter even if I tell you explicitly that I am not? If I talk about the behavior and actions of a dream figure, do I grant that figure metaphysical status? Granted, both Harry Potter and the dream figure are traditionally regarded as explicitly fictional whereas God is traditionally not. When it comes to Jung's understanding of God, as distinct from the traditional understanding, the essential nature of God is the question at issue: Is God a mythological/psychological image, or a literal/metaphysical fact? This is a legitimate question, but the fact that Jung talks about the behavior and actions of God—or any mythological figure, fairytale character, or dream personification—does not by itself prove that "Jung can *only* be talking about God here, not a God-image" (Anderson, 2021, p. 44). Furthermore, it is not "nonsensical" for Jung to speak of a God-image in the psyche of humans that is more unconscious than the humans in which the image occurs. Rather, this is one of the main points Jung makes in *Answer to Job*: The ego is the means by which the Self becomes conscious. Explicitly affirming that "religious statements are psychic confessions," Jung makes his own psychic confession that man needs God, but God also needs man (Jung, 2010, p. xii). God can only become conscious through man's reflection. In using such language, Jung is giving a symbolic description of the individuation process. Keeping the traditional patriarchal religious language of "God and man" to describe the relationship of Self and ego acknowledges the historical context of this relationship in Western culture.

While I do not agree with the arguments that Anderson (2021) uses to support what I see as the main point in his article, that "Jung actually sees soul in metaphysical terms

but denies this” (p. 42), I am genuinely interested in this question, just as Anderson is. Well, actually, he asserts it as a conclusion, but I am turning his assertion into a question. And in the second half of this article I will do my best to give a clear answer.

PHYSICS AND METAPHYSICS IN MODERN PSYCHOLOGY

I could tell almost immediately during our conversation at Union Station that—although I graduated from a “Bollingen Institute” for my analytic training!—Anderson and I both share the goal of being both genuinely Jungian *and* genuinely modern. For this reason, I was surprised there was no mention at all of Jung’s intense interest in physics and his 26-year-long correspondence with Wolfgang Pauli in Anderson’s article. I was surprised by this omission both because Anderson insists that in the modern discipline of psychology, metaphysics has no place, and couples this assertion with a definition of metaphysics as that which has “no scientific basis” and lies “outside of known physical laws.” Given that his rejection of metaphysics as outside the domain of psychology is so closely tied to metaphysics being outside the domain of physics, I would have guessed that a modern understanding of physics would be important enough to Anderson to deserve some mention. In addition, before reading Anderson’s article, I already knew at the time that Giegerich, as evidenced by the title of one of his articles from the eighties, “The Nuclear Bomb and the Fate of God: On the First Nuclear Fission,” finds the fate of metaphysics to be in some way intertwined with the fate of physics (Giegerich, 2020). The nuclear bomb as a modern mode of being depends, of course, upon modern physics, which learned how to split the nucleus of the atom so that an ensuing chain reaction would release copious amounts of energy. This also led me to assume that physics, in which metaphysics has no place, would likely be of central place for any Giegerichian concerned with the modern status of the soul.

In my conversation with Anderson, however, it soon became apparent that he viewed my position that physics is pertinent, even central, to modern psychology as a detour. This was kind of a letdown. I went on and on for a while in a pretty animated way before Anderson let me know that from his perspective very, very few people really care about the theories of quantum physics, relativity, and the rest of it. Modern physics is something that is just not important to most people who are instead concerned, and greatly impacted by, politics or media or the internet. Not only was Anderson not interested in metaphysics, he was not interested—*as a psychological matter*—in physics either! What I understood from Anderson’s account is that the theories of contemporary physics are outside the scope of the modern *Anthropos*, or the communal sense of what it means to be human. The *Anthropos* is the domain of psychology. Just as metaphysics lies outside the modern *Anthropos*, so does physics.

In addition, the perspective of physics is objective and ontological, whereas the perspective of psychology from the Giegerichian perspective as the discipline of interiority is methodological, a way of seeing and not an ontology. In personal correspondence, after my conversation with Anderson at Union Station, Giegerich himself described this point to me as follows:

Your interest in “the physics side,” in synchronicity, in the question of “psyche and matter” is very much in accordance with, or maybe even a direct reflection of, this outside standpoint. Physics is *the* decisive attempt to look at things strictly from outside and to systematically explain every indication of interiority, any sign of soul, away in terms of exteriority. With the question of

“psyche and matter” one even conceives the psyche from outside. What psychology as the discipline of interiority is about cannot even be sighted from the standpoint of external reflection. Its topic or concern comes only into being through one’s (methodological) negation of, or pushing off from, any intellectual commitment to the world of nature as seen either by everyday consciousness or by science, which admittedly is not everybody’s taste.

The issue between you and Daniel or you and me does therefore not seem to me to be one of the right or wrong view, between true or false, not even of possible misunderstandings. Misunderstandings could possibly be cleared up. It is an altogether different matter, that of fundamentally different commitments. They easily coexist because they do *not* touch (only the *persons* having such different commitments might get into a conflict). Any discussion between such different standpoints is necessarily in danger of ending up in one’s talking at cross-purposes. (W. Giegerich, personal communication, March 22, 2020)

Giegerich does not deny the legitimacy of physics as a separate field apart from psychology or the validity of my own interest in the psyche/matter problem. What stands out to me in his response is that physics is “*the* decisive attempt to look at things strictly from outside and to systematically explain every indication of interiority, any sign of soul, away in terms of exteriority.” Psychology as the discipline of interiority expresses a fundamentally different commitment than physics as the discipline of exteriority. I will return to this point later on.

PHILOSOPHICAL DIALECTIC AND PSYCHOLOGICAL COMPLEXES

I genuinely appreciated, and still do, Giegerich’s cool assessment of the differences in our perspectives. His response stood in stark contrast to the heated battles I had experienced observing others discussing Giegerich’s own ideas. But I do not want to gloss over the human reality that Giegerich also acknowledges—namely, that persons having fundamentally different commitments can get into conflict by talking at cross-purposes. When it comes to persons, of course, our all-too-human feeling judgments and emotions, wounds and defenses, narcissistic desires to win, and the rage that accompanies a feeling of losing, are part of the picture. That is simply a fact. Regardless of whether or not emotional reactions should belong to psychological dialectic, in real life—I hesitate to say “always” but I will go for it—they are always there and always come into view sooner or later.

As I mentioned at the start of this article, what intrigued me so much that I sought to further explore Giegerich’s ideas were not his ideas per se but rather the extreme emotional reactions they inspired for interested parties on both sides of the debate. In a subtle way, I experienced emotional responses similar to those that I had observed in others during my conversation with Anderson at Union Station. I have already mentioned our different perspectives on the psychological relevance of physics; these felt deflating and disappointing to me. At Union Station I also told Anderson that talking with him about synchronicity reminded me of a conversation I had with James Hillman years ago in which Hillman dismissed what he called “the magics of synchronicity” with what I experienced as a feeling of contempt. Interesting! I certainly am not claiming that either Anderson or Hillman personally experienced such feelings, only that I experienced our conversations in this way (i.e., tinged with underlying contempt). Was I feeling contempt for Anderson and/or Giegerich? These reactions only

became visible to me through further dialogue with Anderson and by reflecting on his responses to my initial draft of this article.

Because I knew that unconsciously identifying with my reactions would bring our interesting dialogue to a boring standstill at best, it was important to me to first acknowledge that these emotional reactions exist and then to make an effort to understand what they were. I am certain that not only fundamentally different idealistic commitments, but also automatic, visceral reactions (i.e., complexes) inform the splits that disrupt our capacity to dialogue not only about Giegerich's ideas but also about controversial or differing ideas in general in our training institutes and elsewhere. In other words, there is a whole lot more than logic (in the narrow sense) involved in most discussions of the soul's logical life within Jungian circles. For instance, Jung's explorations of the psyche/matter problem in his alchemical and other studies do appear mystical, metaphysical, or magical to some persons. Moreover, there are also some persons who almost instinctively cringe when confronted with such impressions. It is the personal reaction—for instance, cringing—and not Jung's ideas per se, that explain the splits between Küsnacht vs. Bollingen institutes that Anderson is concerned about. As Giegerich accurately put it in his response to me, only the persons having such ideas might get into a conflict with each other. Again, this is a point that seems obvious now as I say it, but was not obvious when I began this project. Intellectual understanding of complexes and unconscious defense systems is one thing, the ability to apply that intellectual understanding to oneself, or, more ideally, to the unconscious psychosomatic field between two or more people, quite another. I feel that Anderson and I did an okay job of navigating the psychological and emotional dimensions of our dialogue and this allowed our dialogue to continue. Further exploration of my own symptoms, however, lies outside the scope of this article!

DOES THE SOUL HAVE SUBSTANTIAL REALITY?

Perhaps this is a good place to transition to my own perspective on the question of whether or not, as Anderson puts it, the soul has substantial reality. Another way to phrase the question is whether the nature of the soul is methodological, a way of seeing and not an existing thing, or whether the soul has ontological, not only epistemological, reality.

Jung proposed an answer to this question in a letter to J. B. Rhine in November 1945. Rhine, the founder of the parapsychology lab at Duke University and the *Journal of Parapsychology*, had written to Jung and asked him a series of questions about his views on parapsychology. In response to one of Rhine's questions, Jung (1973) wrote, "The psyche ... seems to belong to the microphysical world."

I can explain extra-sensory perception only through the working hypothesis of the relativity of time and space. They seem to be *psychically* relative, i.e., what one calls absolute space, for instance, only exists in the world of macrophysical aspects. In the microphysical world the relativity of space and time is an established fact. The psyche, inasmuch as it produces phenomena of a non-spatial or a non-temporal character, seems to belong to the microphysical world. This would also explain the obvious non-spatial nature of psychic existences such as thought etc. and the fact of precognition. In so far as the psyche is an energetic phenomenon, it has mass, but mass of microphysical extension or weight. From this fact we can derive material effects of the psyche. (p. 394)

The psyche “seems to belong to the microphysical world.” Jung’s statement leans on the “working hypothesis,” as he calls it, of the relativity of time and space at the microphysical level, but Jung’s tentative conjecture is still far away from having the status of a hypothesis in its own right. Nevertheless, for our purposes the point is clear: Jung does not evade the question of whether the soul has substantial reality as Anderson argues. Jung affirms that there is an ontological, not only methodological, dimension to the psyche. The soul has substance. However, Jung identifies soul substance with microphysics, not metaphysics, and also not with physical reality as perceived by the senses.

It is important to notice here that Jung’s identification of psyche and matter is not on the ego level of consciousness and phenomenal stuff but on the level of the collective unconscious and the microphysical. The psyche has mass, “but mass of microphysical extension or weight.” On this basis, Jung derives “material effects of the psyche.” As Anderson recognizes in his critique of mixing psychology with astrology, a proposition is metaphysical only if it lies outside known physical laws. Clearly, Jung’s conjecture that the psyche belongs to the microphysical world has nothing to do with metaphysics unless one conceives of the microphysical as a metaphysical hypostasis. If one does not conceive of the microphysical as metaphysical, then Jung cannot be accused here of “dabbling in religion and mysticism.” If one does conceive of the microphysical as metaphysical, then the critique of dabbling in religion and mysticism ought logically to apply to 20th/21st century physics as well, not only Jungian psychology.

The identity of psyche and matter is by no means a peripheral issue for Jung. From his decision to study psychiatry as a young man, to the end of his life working with Pauli, the synchronicity conjecture, and his fascination with alchemy, all of Jung’s life’s work revolved around the mystery of the conjunction which includes this problem of interior *and* exterior. For Jung of course the answer could never be found in reducing one side to the other or ignoring one side at the expense of the other. For him the way forward was to find their union, the *mysterium coniunctionis*, the presence of a deeper order that Jung worked on with the Nobel laureate in physics, Wolfgang Pauli, for 26 years, namely, the problem of the *unus mundus*. This latter problem is at the center of Jung’s later alchemical writings, including his seminal essay “On the Nature of the Psyche” (1941), *Psychology and Alchemy* (1944), in which Pauli’s dreams took center stage, his theory of synchronicity published with an essay of Pauli’s in 1952, and, finally, the completion of Jung’s magnum opus *Mysterium Coniunctionis* in 1955, six years before his death.

“THE NEW PHYSICS HAS TURNED THE GROUND INTO SPIRIT”

Strangely, there are significant ways in which the writings of the preeminent physicists of the 20th century mirror the “spousal verse” of the Romantic poets and philosophers of nature (Wilber, 2001). “We have found that where science has progressed the farthest,” Eddington said, “the mind has but regained from nature that which the mind has put into nature” (Eddington, as cited in Wilber, 2001, p. 74). Jung was extremely excited about discoveries in the physical sciences that appeared to harmonize with his theory that the psyche has substantial reality as more than a personal, subjective psyche, yet not a metaphysical psyche. In his seminars on Nietzsche’s *Zarathustra* for instance, in the early to mid-1930s, Jung expressed his sense that what he called the *new physics* was fast becoming a medium through which the relationship between spirit and matter was being reimaged.

Jung: “But now we make an extraordinary discovery. What has the mind done in the ground?”

Mrs. Baynes: “The new physics has turned the ground into spirit.”

Jung: “Yes, the new physics has done the trick, exploded matter altogether and the most recent development is reported in an article by a very modern physicist, in which he shows how modern physics becomes psychology; they climb in at the bottom of the collective unconscious.”

Mrs. Baynes: “How did they get into the collective unconscious?”

Jung: “Through the fact that when you observe the phenomenon of the interior of the atom, you find that your observation disturbs the thing you observe; and if you go on observing, you observe the thing that disturbs, you discover the psyche.... So the spirit that descended into the earth has exploded matter, and comes up again in the form of psychology. ... there is no return to material matter now, no chance.” (Jung, 1997, pp. 244–245)

With palpable, almost over-the-top enthusiasm, Jung (1997) exclaims in this seminar that “there is no return to material matter now, no chance” (p. 245). “Modern physics becomes psychology” (p. 244), Jung exclaims in 1934. This early formulation made spontaneously in a seminar is a one-sided and reductive formulation that Pauli would challenge Jung on in the decades to follow. No physicist would agree that modern physics becomes psychology, any more than any psychologist would agree that modern psychology becomes physics. The problem here is the lack of a unitary language; we need to find a way to affirm the identity and unity of psyche/matter without being reductive. Currently, that language does not exist.

One point I want to draw out and emphasize in the remainder of this article is Jung’s intuitive thought that the soul’s negation of itself as metaphysics necessarily leads to the negation of itself as matter. As Jung metaphorically expresses this process, the death of God releases spirit into the earth where it explodes matter. The negation of metaphysics leads logically, in Giegerich’s sense of the word, to the negation of materialism. I will return to this point.

Is Jung off base when he says there is no return to material matter now, no chance? Not being a physicist himself, is he misinterpreting the findings of the new physics as he understands them in 1934? Einstein, in his book, *Relativity: The Special and General Theory—A Clear Explanation that Anyone can Understand* (1916/1988), wrote an interpretation of materialism that is quite close to Jung’s, without the metaphorical language of “spirit” and “explosions.” If what Einstein writes below is not astonishing to you, please read it twice, or a few times.

All these space-like concepts [e.g., geometrical shapes, number, and motion] already belong to pre-scientific thought, along with concepts like pain, goal, purpose, etc. from the field of psychology. Now it is characteristic of thought in physics, as of thought in natural science generally, that it endeavors in principle to make do with “space-like” concepts alone, and strives to express with their aid all relations having the form of laws. The physicist seeks to reduce colors and tones to vibrations, the physiologist thought and pain to nerve processes, in such a way that the psychical element as such is

eliminated from the causal nexus of existence, and thus nowhere occurs as an independent link in the causal associations. It is no doubt this attitude, which considers the comprehension of all relations by the exclusive use of only “space-like” concepts as being possible in principle, that is at the present time understood by the term “materialism” (since matter has lost its role as a fundamental concept). (Einstein, 1954, p. 292)

“Matter has lost its role as a fundamental concept.” Materialism is an “attitude” in which “the psychical element as such is eliminated from the causal nexus of existence” and space-like concepts alone are used in an attempt to see nature purely from outside. Materialism—this attitude according to Einstein—became fundamentalist when it could not see through itself for centuries as anything other than literal truth. Yet the space-like concepts that materialistic physics exclusively employs already belong to prescientific thought; they are of the same (“subjective”) nature as concepts that are more easily recognizable as belonging to the field of psychology, such as goal and purpose. It is interesting to note that Einstein does not refer to quantum physics in this critique of materialism; his critique appears in the relativity book and is essentially an exercise in what we depth psychologists would call “taking back projections.” The main point that I draw from Einstein’s perspective is that materialism—what Jung calls material matter and Coleridge refers to as the mechanical philosophy—has in the 20th century been seen through as an essentially psychological attitude as opposed to an ontological fact.

Although the new physics is not so new anymore, in a way it still is because our consciousness has not caught up yet. Einstein wrote the passage above over a century ago. Most of us, however, are blown away in reading this because we are still in the 18th century when it comes to our assumptions about the ontological status of both soul and nature. And yet, despite our ignorance, many non-scientists today are strangely drawn to Einstein, to relativity, to quantum physics and related topics, and share Jung’s enthusiasm in 1934 for the mind-bending implications of the new physics when exposed to them. Like me, there are a lot of people strangely intrigued by quantum physics, something they do not understand, simply because the implications seem to offer, however vaguely, some kind of possibility for a new vision of nature when materialism has become unconvincing and unsatisfying.

NON-OVERLAPPING MAGISTERIA

Most educated Westerners today probably tend to regard religion and science as did American evolutionary biologist Stephen Jay Gould (1941–2002), namely as the respective domains of values and facts that comprise non-overlapping magisteria or NOMA (1997). Gould’s diplomatic solution for the conflict between religion and science is to give each their due as long as they each stay in their lanes. This is essentially Giegerich’s position on the relationship between psychology and physics; each field expresses “fundamentally different commitments. They easily coexist because they do *not* touch” (W. Giegerich, personal communication, March 22, 2020).

There are notable exceptions to Gould’s reasonable opinion that religion and science express non-overlapping domains of values and facts. Einstein is one. Clearly drawing from his own experience, Einstein writes that “cosmic religious feeling” is the emotional inspiration that lies privately and secretly hidden under the surface of what most of us only see as the tangible results of creative scientific research. In fact, in the

modern, materialistic world, “serious scientific workers” might be “the only profoundly religious people.”

I maintain that the cosmic religious feeling is the strongest and noblest motive for scientific research. Only those who realize the immense efforts and, above all, the devotion without which pioneer work in theoretical science cannot be achieved are able to grasp the strength of the emotion out of which alone such work, remote as it is from the immediate realities of life, can issue. What a deep conviction of the rationality of the universe and what a yearning to understand, were it but a feeble reflection of the mind revealed in this world, Kepler and Newton must have had to enable them to spend years of solitary labor in disentangling the principles of celestial mechanics! Those whose acquaintance with scientific research is derived chiefly from its practical results easily develop a completely false notion of the mentality of the men who, surrounded by a skeptical world, have shown the way to kindred spirits scattered wide through the world and through the centuries. Only one who has devoted his life to similar ends can have a vivid realization of what has inspired these men and given them the strength to remain true to their purpose in spite of countless failures. It is cosmic religious feeling that gives a man such strength. A contemporary has said, not unjustly, that in this materialistic age of ours the serious scientific workers are the only profoundly religious people. (Einstein, 1930, section 5, p. 3)

Cosmic religious feeling, knowingly or not, inspires not only many professional scientists, but also many persons who have science as a hobby; those who stare in awe at the images taken by the Hubble telescope or who buy a telescope themselves and gaze at the stars; those who are enraptured and fascinated by books and videos by Carl Sagan and Stephen Hawking, or who enthusiastically attend lectures that are ostensibly about science but are really about religion—or both at once!—like the one that Brian Greene is offering in my hometown of Santa Barbara, California, as I write this: *Until the End of Time: Mind, Matter and Our Search for Meaning in an Evolving Universe*. It is very difficult to pretend that Greene’s lecture is not explicitly appealing to a contemporary form of religious feeling; namely, our collective search for meaning, in which values and facts are no longer mutually exclusive but commune with each other. In other words, Greene’s lecture might count as the type of quasi-recuperated religion that Anderson rejects when he senses it in Jung. However, if *Mind, Matter and Our Search for Meaning* is a title that appeals to the religious instinct, then in my opinion it does so in a way that resonates with, rather than repulses, the modern imagination. Not only Brian Greene’s lecture, his best-selling books and popular PBS specials, but also the many, many similar offerings made by others, are evidence that a marriage of the supposedly non-overlapping domains of values and facts—inner and outer—belongs to the contemporary soul.

WHAT YOUR SPIRIT CAN’T BRING TO SIGHT/WON’T BY SCREWS AND LEVERS BE DISPLAYED

In contemporary culture metaphysical fundamentalism is still a dangerous problem. But there are two big pits to fall into on the way forward in the evolution of

consciousness, not only one. The one pit is religious fundamentalism, the other is scientific fundamentalism in the form of materialism. One example of what I mean by the fundamentalism of materialism is the prevailing trend today to take the big idea found in Romanticism, Jungian psychology, and modern physics of non-dualistic identity of psyche and matter and literalize it on the physical pole of the psyche/matter dualism where it appears as technology.

Elon Musk and others conjecture that the world is a computer simulation. Ray Kurzweil asserts that matter will “wake up” in a historical/technological future. That will happen when the human/machine civilization grows sufficiently advanced to infuse matter with its own intelligence, turning even the atoms and molecules in ordinary rocks into super intelligent computational devices. By combining ordinary matter with “computronium,” Kurzweil’s name for the exquisitely intelligent software that will carry all the knowledge of the civilization of the future, an ordinary rock will become “a trillion, trillion times more powerful than all biological human brains” (Waller et al., 2008). In his book, *The Singularity is Near*, Kurzweil describes how the technological Singularity will “ultimately infuse the universe with spirit”:

This is the ultimate destiny of the Singularity and of the universe. ... Our civilization will ... expand outward, turning all the dumb matter and energy we encounter into sublimely intelligent—transcendent—matter and energy. So in a sense, we can say that the Singularity will ultimately infuse the universe with spirit. (Kurzweil, 2006, p. 375)

Kurzweil continues, placing his technological vision of the future in relation to old ideas of an *anima mundi* and of God: “Once we saturate the matter and energy in the universe with intelligence, it will ‘wake up,’ be conscious, and sublimely intelligent. That’s about as close to God as I can imagine” (Kurzweil, 2006, pp. 375, 361, 362, 364, 387, 476). God is the consciousness of all the matter and energy in the universe. That is Kurzweil’s image of God. Kurzweil’s vision is not metaphysical; it is purely physical, played out in a materialistic framework. Nevertheless, it is God-like (i.e., “close to God”).

What is the fate of God in the modern world? According to Kurzweil, God never was but will be. Or maybe not. Perhaps humanity will blow itself up and there will be another dark age in which our technological progress crumbles to dust. Or another possibility is that Kurzweil is unconsciously imprinted by an archetypal symbol—the *anima mundi*—that he projects into a technological and historical future. A universe infused with spirit might be something that really exists right here, right now. As Goethe puts it in *Faust I*:

Mysterious, even in broad daylight,
Nature won’t let her veil be raised:
What your spirit can’t bring to sight,
Won’t by screws and levers be displayed. (Goethe, 1994, p. 13)

Kurzweil’s fantasy, founded in his vision of nature as seen exclusively from the outside, is that someday in the future matter will become spirit through technological progress. Perhaps this will turn out to be correct. On the other hand, perhaps the universe will only wake up through our ability to bring the unity of spirit and matter to sight, not through the advent of a technological singularity.

An interesting contemporary contribution to the relationship of spirit and matter that avoids the trap of materialistic fundamentalism is UC Irvine professor of Cognitive Science Donald Hoffman's (1955–) 2019 book, *The Case Against Reality: Why Evolution Hid the Truth from our Eyes*. Hoffman's work is an example of what I see as an ongoing sea change that seeks to bring spirituality and science—psyche/matter, inner/outer—into relationship with each other by bringing mathematical precision to experiences and intuitions that have up to this point been possible to convey only through words and images. Hoffman's thesis, supported by computer-generated scenarios based on the algorithms of evolutionary game theory, is that evolution has trained humans to construct an experience of reality, including time and space, that is useful as a tool for reproduction and survival but not as a way to see the world as it is. In fact, the three-dimensional world of space/time and everything in it, Hoffman claims, bears about as much resemblance to objective reality as the icons on our computer screens bear to the diodes and voltages in the computer. In both the perceptual world and the computer interface, the point is not to reveal an overwhelming complexity but dumb it down so that we can handle it.

Hoffman's point about evolution probably unintentionally repeats the point made by Shelley in his 1819 essay, *On Life*: if we saw things as they are, we would be so overawed and absorbed by astonishment that we would not be able to do anything! We would not survive. That is the conclusion Hoffman comes to by a mathematical modeling of evolutionary game theory. In running through multiple scenarios, it turns out that organisms attuned to seeing reality as it is always lose the game of survival to organisms of equal complexity who are simply attuned to survival payoffs.

Hoffman's case against reality is a return to Shelley's hypothesis that space/time and everything in it is such stuff as dreams are made on. In this sense he also echoes Jung's sense of the psyche as a second world creator, closely akin to Coleridge's Primary Imagination. Hoffman supports his hypothesis with mathematical models and technological metaphors. However, important to notice is that, unlike Elon Musk, Hoffman does not entertain the possibility that the world *is* a computer simulation, only that our perception of the world is analogous to a computer interface. The math and the analogies to computer interfaces, Hoffman believes, makes his perspective that there is a creative and imaginal dimension to the mind's perception of the world more difficult to rationally dismiss as poetry or religion than it otherwise would be.

A SYMBOL IN THE TRUTH OF THINGS

Genius often involves a child-like capacity to question, take seriously, and be awe-struck by what is for most people too obvious to be noticed. New breakthroughs in consciousness can start with observations so simple they usually evade notice. Einstein's observation that the most incomprehensible thing about the universe is that it is comprehensible is one example. Sir James Jeans' realization that "the Universe begins to look more like a great thought than like a great machine" is another (Jeans, 1938, p. 137). Jeans' point is akin to Eugene Wigner's insight that there is an unreasonable effectiveness of mathematics in the physical sciences. All these examples center on a common realization that there is something mysterious about the relationship of soul and world.

The genius of the Romantics is that they found their own souls in their poetic descriptions of nature: "I communed with all I saw as something not apart from but inherent in my own immaterial nature," writes Wordsworth (Wordsworth, 1993, p. 61).

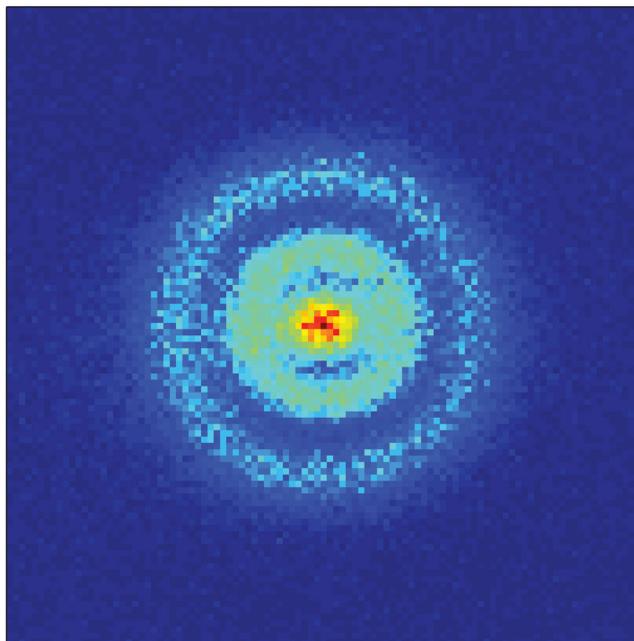


Figure 1. Image of a hydrogen atom. Aneta Stodolna. 2013. Used with permission.

Wordsworth's experience is that nature is in communion with his own psychic nature. "Communion" is a word that has religious connotations. Is Wordsworth's participation with nature a delusional regression to an earlier mode of consciousness that the modern mind has outgrown?

As the alchemists peered into the unknown dimensions of matter, they also communed with their immaterial nature; they experienced material processes as symbols. This is, of course, what led to the scientific rejection of alchemy as delusion in the 17th–18th centuries. So why would Wolfgang Pauli, a Nobel laureate in physics, compare modern physics to alchemy? "It is very easy for the unconscious to replace the alchemistic oven with a modern spectrograph," Pauli writes (Jung & Pauli, 2014b, p. 34). If Eddington (1928/2012) is correct that the most we can say in words about the fundamental ontological status of matter is "something unknown is doing we know not what" (p. 291), then it seems reasonable to wonder if Pauli might be correct as well. Is it possible that when it comes to the microphysical world we are in a position not unlike that of the 17th-century alchemist? When we peer into the heart of what are—for us—the unknown dimensions of matter, do we also see a symbol in the truth of things?

Replacing the alchemical flask with our most advanced methods of observation, what do we actually see? This is the first ever direct observation of the electron orbital, the wave function of a hydrogen atom taken in 2013 (Stodolna et al., 2013). (Figure 1.)

This is an image of the wave function of a hydrogen atom's orbital structure with its one electron. The title of the article in which this image is published is "Hydrogen Atoms under Magnification: Direct Observation of the Nodal Structure of Stark States" (Stodolna et al., 2013). Unfortunately, this title does not make a great headline, so the popular media replaced it with something much catchier: "First ever photograph of an atom!" I am glad they did because that line definitely caught my eye. This image is not, however, a photograph as the media reported. Light cannot resolve this "stuff" since it is about 10,000 times smaller than the wavelength of visible light, and also because

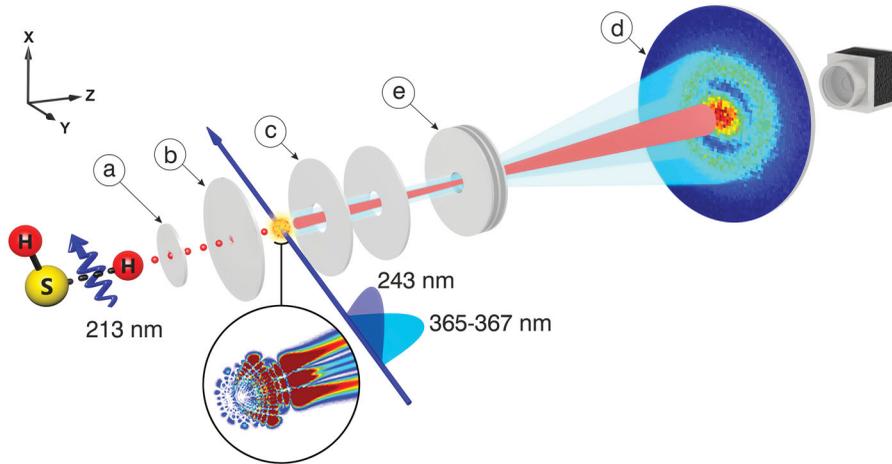


Figure 2. Mechanism by which the image of a hydrogen atom was created. Aneta Stodolna. 2013. Used with permission.

actually measuring (i.e., “photographing”) the wave function of any quantum system collapses the wave function, meaning that only one possible state can be measured and seen. Obviously, I am out of my field of expertise here, but my best understanding is that what we actually see in this image is the stationary state of the hydrogen wave function rendered into a visual format (i.e., a 3D x, y , intensity image) directly reflecting the wave function of the atom through the capturing of interference patterns of photoelectrons projected onto a two-dimensional plate.

What does an atom look like before the data corresponding to interference patterns is rendered into a visual format? It is a simple insight, really: We have created this image of the atom. It does not exist without us, whereas presumably there is something which is unknown that does. The image of the atom as concentric circles with a point at the center is a symbol that remains, as Woodman puts it, “forever answerable to the larger reality of an unconscious realm that in itself is unknowable” (Woodman, 2005, p. 203). In Figure 2 above, that unknown atomic reality is depicted as the red and yellow circles on the left side of the apparatus. Of course, nobody believes that there are really red and yellow circles over there. The hydrogen atom *is* the wave function. What is “waving” is the probability of actually finding the atom as a particle in any one place if one observes it (Rosenblum and Kuttner, 2011). Some physicists, for example Neils Bohr (1885–1962), one of the founders of quantum physics, hypothesized that an atom is not a thing but an unvisualizable expression of probability known only by the mathematics that describes it. Atoms are not real, in other words; they express a potential world that underlies and gives rise to the things and facts we interact with in the real world. Bohr’s interpretation seems to be based on a recognition of epistemological limitations. “We must be clear,” Bohr emphasizes in a 1920 conversation with Werner Heisenberg, “that when it comes to atoms, language can be used only as in poetry. The poet, too, is not nearly so concerned with describing facts as with creating images and establishing mental connections” (Giles, 1993, p. 28).

There is a lot of debate in the field of microphysics today concerning the ontological interpretation of quantum mechanics. I am sure that I have not captured the essence and complexity of this debate in the paragraph above. However, for our purposes, it does seem reasonable to assert that if Anderson rejects Jungian analyst Jeffrey Raff’s (2000) definition of the soul as “psychoidal in the sense that it exists in a realm

beyond the ordinary world, and is eternal in its own right” (p. 213) as a “patently metaphysical conception ... that reflects Jungian mysticism” (Anderson, 2021, p. 48), then to be consistent, Anderson must also consider whether or not the atom in modern physics is metaphysical mysticism as well.¹ Whatever the atom is in itself, it exists beyond the ordinary world and borders on the eternal. Stable, nonradioactive atoms are, for all intents and purposes, immortal. Whether or not protons decay is hypothetical and not yet resolved, but models that do predict proton decay put their half-life at 1.29×10 to the 34th years. A recently revised prediction of the lifespan of an electron is 60,000 yotta years (10 to the 24th power), about 5 quintillion times the current age of the universe. Current evidence suggests that there may be nothing for an electron to decay into since the only particles lighter than electrons are electrically neutral (Dvorsky, 2015).

Although you will not read anything close to what I am about to say in *Physical Review Letters* where this image of an atom is published, the conclusion I draw from these reflections is not that quantum physics is patently metaphysical mysticism, but rather that this image of the wave function of a hydrogen atom we see above is a contemporary symbol of psycho/physical reality currently inaccessible to our conscious perception and understanding (i.e., “The types and symbols of Eternity, Of first, and last, and midst, and without end”) (Wordsworth, 1850/1996, 6.638–640). I believe that the way the hydrogen wave function appears to us in 2013 is an example of what Eddington meant when he said that we discover from nature what the mind has put into nature, and also an example of what Pauli meant when he said it was very easy for the unconscious to replace the alchemical oven with a modern spectrograph.²

What we see when we peer deep into the heart of matter is the reflected image of a circle. This is an interesting although seemingly obvious and inconsequential fact. The circle is the most primal and universal image of God. In fact, when I looked up “God” in Wikipedia a few years ago, what I found right at the top of the entry was the image of a circle with a point in the middle. Ralph Waldo Emerson (1803–1882), a second generation American Romantic, linked the circles we see in nature to the “first circle” that is the eye.

The eye is the first circle; the horizon which it forms is the second; and throughout Nature this primary figure is repeated to the end. It is the highest emblem in the cypher of the world. St. Augustine described the nature of God as a circle whose center was everywhere and whose circumference nowhere. (Emerson, 1841/1983, p. 401)

Humanity has always felt the circle as something perfect, eternal—without beginning or end—in other words, “divine,” the monad, the *a-tom*, or indivisible. Jung’s *Red Book* is filled with paintings of mandalas, or quadrated circles, that Jung also discovered in religious and mystical traditions around the world.

Symbols are not just intellectual maps. Symbols are living experiences, visceral, emotional windows to the numinous. I can confess that this image of an atomic circle, this projection streaming from the unknown mystery of matter, is beautiful to me, even mesmerizing (Figure 3).

To be honest, as I let myself stare into that image of the atomic circle and become aware of my emotional feeling visceral response, I feel like the “alchemist” in Joseph Wright of Derby’s painting! There is no doubt that this alchemist is experiencing what Einstein called “cosmic religious feeling.” Is Wright’s painting a depiction of an experience that belongs to the metaphysical prepsychological world? I imagine the alchemist as looking into the power of the sun captured in a test tube as nuclear radioactivity; he



Figure 3. *The Alchemist, in Search of the Philosopher's Stone, discovers phosphorus, and prays for the successful conclusion of his operation, as was the custom of the Ancient Chymical Astrologers.* Joseph Wright of Derby (1771, reworked 1795). 127 cm × 101.6 cm (50 in × 40 in). Derby Museum and Art Gallery, Derby. Public Domain.

is Oppenheimer watching the first atomic bomb explode at the Trinity site in New Mexico on July 16, 1945. What I read in Giegerich is that the nuclear bomb—which of course derives all its power from the atomic nucleus—is one example of a modern experience of God.

“Higher” truth is no longer literally above the world, but it is the depth and essence of the real world itself. If therefore our real experience binds our thinking and speaking, then we must say the nuclear bomb is God, our true God, the God of the Christian West in his reality. (Giegerich, 2007/2020, p. 130)

Giegerich's words echo Jung's declaration that “God is Reality itself, and therefore last but not least man” or Wordsworth's, that spirit is not above the world but in nature “like workings of one mind, the features, Of the same face, blossoms upon one tree” (Jung, 2014a, para. 631; Wordsworth, 1850/1996, 6.624–640). I would phrase it, however, a bit differently from Giegerich. I would say that the nuclear bomb will be our God if there is a nuclear war. Until that point there is another possibility. The atom

itself could be our God. The atom from which the bomb derives all its power, as it turns out, appears to us as an image of God. The bomb is the reduction of that image to a weapon of mass destruction as an ego project. If we allow this train of thought to take hold for a minute, it becomes possible to understand how avoiding mass genocide may hinge on the death and rebirth of our culture's materialistic consciousness, of the military/industrial complex within us. In Jung's colorful language, when spirit descends into earth it explodes matter. Acceptance and integration of that metaphorical explosion may be our only alternative to literal annihilation (Figure 4).

According to Joseph Campbell, myth is "the secret opening through which the inexhaustible energies of the cosmos pour into human cultural manifestation" (Campbell, 1968, p. 3). In this sense, physics is mythic and Pauli experienced his own pursuit of physics this way—in line with Wright's "alchemist"—not as the definitive attempt to see nature from outside and not as an ego project, but as a *heilsweg*, a "sacred way" which gave him access to soul. Perhaps that is why Pauli was horrified when the industrial military complex in World War II captured his light of illumination, his discovery of phosphorus, and reduced it to a weapon of mass destruction.

Pauli was the only prominent physicist in the United States at the time—he was a professor at the Institute for Advanced Studies in Princeton, New Jersey—who did not participate in the Manhattan Project. After the war, Pauli returned to Switzerland and worked on his dreams with Jung, which revealed the terrifying exclusion of the soul or *anima*, the feminine or ethical, feeling, symbolic principle, from the military/industrial complex. The *anima* was alive in the alchemical experience of matter and in the Romantics' sense of a pervading spirit coeternal with nature. She came alive again in Jung's experience that the modern psychosomatic unconscious is alive and concealing natural spirit. The older paradigm, still the prevailing paradigm by far, in which physics is the definitive attempt to see nature from outside is—in language that Pauli and Jung employed in their correspondence and which we do not have time to explain here—Trinitarian as opposed to Quaternian, and as such merely rational, missing the symbolic/feeling principle, missing the soul (Jung & Pauli, 2014b; Lindorff, 2004; Woodman 2005, especially Chapter 1 and Conclusion).

SOMETHING UNKNOWN IS DOING WE KNOW NOT WHAT

Arthur Eddington (1882–1944), the famed British physicist and mathematician who led the expedition after World War I that empirically confirmed Einstein's general theory of relativity, writes, as I mentioned earlier, that the most we can say about matter from the perspective of modern physics is "something unknown is doing we know not what" (Eddington, 1928/2012, p. 291). We do not know what matter is. What we do know, however, is that the unknown something we call matter has something to do with our unknown self.

We have found that where science has progressed the farthest, the mind has but regained from nature that which the mind has put into nature. We have found a strange footprint on the shores of the unknown. We have devised profound theories, one after another, to account for its origin. At last, we have succeeded in reconstructing the creature that made the footprint. And Lo! It is our own. (Eddington, as cited in Wilber, 2001, p. 74)



Figure 4. The destruction of Job's Sons. Plate 3 from "Illustrations of the Book of Job." William Blake 1823–1826. Published 1874. Public Domain.

When physics no longer has access to matter (matter is unknown) what does it have access to? Whatever Eddington has in mind by the "footprint" that he discovers on the shores of the unknown, he must mean something akin to soul and consciousness.

Giegerich's position is that physics is the definitive attempt to see things from outside. As such, physics has nothing to do with psychology understood as the discipline of interiority. The way things stand today in collective mainstream culture, Giegerich is correct: Psychology and physics do not touch at all, not even to disagree with each other. Physics and psychology are incommensurable, not even complementary. It is possible, however, that our judgment about the heterogeneity of psychology

and physics is an epistemological confession, the self-reflection of consciousness on a certain cultural level that will not necessarily hold water forever. Where modern science has progressed the farthest, materialism has already been dead for about a century. As we continue as a culture to catch up, perhaps both physics and psychology will eventually go extinct as separate fields of study with fundamentally different commitments. That remains to be seen.

What is certain is that physics is evolving. Eddington implies that physics is no longer the definitive attempt to see things exclusively from outside when he says that we discover our own footprint on the shores of the unknown dimensions of matter. Pauli writes that it is easy to replace the alchemical vessel with a modern spectrograph. Remember these are two of the most respected mathematicians and physicists of the 20th century speaking, not Romantic poets! It really is sometimes hard to tell the difference, I must admit. And there are so many more examples in the writings of the preeminent physicists of the 20th century (Wilber, 2001). The strange footprint on the shore of the unknown, however, will not become collectively visible as our own footprint so long as both metaphysics and materialistic physics are non-overlapping magisteria in the collective Western picture of the world, so long as psychology is understood as methodological and not ontological, so long as the soul is conceived of exclusively as meaning derived from language and not having substantial reality, and so long as either matter reduces to mind or mind reduces to matter.

CONCLUSION

In alchemy there is a dictum: *solve et coagula*. Spiritualize matter and materialize spirit. This dictum is the spiritual and historical precursor to Jung's mature position that there is a fundamental link between the psychology of the unconscious and the new physics. When it comes to metaphysics, Anderson recognizes along with Giegerich that "consciousness has recognized *itself*, its own structure, in its formerly extrajected contents. It has comprehended them as the mind's self-portrait" (Giegerich, 2010, p. 222). I have no disagreement. What about physics? When it comes to *matter*, has consciousness recognized itself, its own structure, in its formerly extrajected contents? The answer to the question of whether or not the soul has substantial reality is the answer to this question. The substantial reality of the soul is one and the same with the soulful reality of substance.

From my perspective, the unconscious or unknown is visible and comprehensible to us only through symbols; for instance, the mandala, which turns out to be the fundamental image of both atom and archetype. The symbol is found not only in our inner world, but also in the truth of things. As a Jungian analyst, I would not hesitate to interpret the so-called photograph of the hydrogen atom pictured above as a symbol of the inner-psychic self if somebody presented it to me as a painting from a dream, or as a God image if I had found it in the iconography of a collective religious tradition. But since this image is actually an archetypal pattern in nature—and by archetypal I mean abstract, identical, eternal, and unchanging—what should we conclude? Perhaps that question most honestly describes the final stage in the sequence of transformation we began with: 1) God; 2) no God; and 3)?.

This is where the dialogue with Anderson left off in our emails back and forth to each other, with a question mark that he suggested lies at the boundary of our current understanding of the fate of God in the soul's logical life. For me, this question mark also represents the boundary we come to when we give our best attempt to formulate a

clear answer to the question of the ontological nature of psyche and matter. There is truly an enigma here, something mysterious and difficult to understand.

It is easy to make clear statements such as, “Physics, by definition, cannot have access to soul and consciousness” (Giegerich, personal communication, May 22, 2020). In the 19th century that was a compelling and satisfying formulation. Is it still? By whose definition? Neither Eddington nor Jung is nearly so clear or certain as Giegerich. Eddington (1928/2012) defines matter as “something unknown is doing we know not what” (p. 291). He leaves the door open as to whether or not physics gives us access to soul and consciousness in the form of, as he puts it, discovering our own strange footprint on the shores of the material unknown. Coming to a similar conclusion but starting from the standpoint of the psyche, Jung’s mature understanding of the archetype is that it “*cannot with certainty be designated as psychic*” (Jung, 1970, para. 439). Both the physicist and psychologist confess their ignorance as to the question of the essential nature of matter and psyche. By doing so, they are not trying to evade giving a clear answer. They are trying to be accurate. It must not have been easy for one of the leading physicists of the 20th century to admit that matter may not be material, nor for the psychologist who created the modern theory of archetypes to admit that the archetype may not be psychic! Jung hardly ever italicizes in his writing, but here he does. It must not have been easy for Jung to confess to Pauli that “Psychology at the moment is lagging so far behind [quantum physics] that there is not much of value to be expected from it for quite a while yet” (Jung & Pauli, 2014b, p. 133). By having the courage to assert these crazy ideas, both Jung and Eddington display an unusual capacity for what Keats in a December 1817 letter to his brothers George and Tom called “Negative Capability” (i.e., “When a man is capable of being in mysteries, uncertainties, doubts without any irritable reaching out after fact or reason.”) (Keats, 2015, p. 112). Negative capability is the capacity to not automatically resort to intellectual defenses against the fear and disorientation that inevitably accompanies any type of truly new experience.

Does the soul have substantial reality? For Anderson the answer to that question is a definite “no.” The soul is methodological, not a thing but a way of seeing, shared meanings produced by language. That is a clear answer. I am aware, by way of contrast, that my proposition that the soul has as much substantial reality as the microphysical world most likely seems bizarre. Is my perspective pure physics? No. Pure psychology? No. In addition, there is so much of the unknown in my formulation. As distinct from either physics understood as the discipline of exteriority or psychology understood as the discipline of interiority, my perspective also suffers from a lack of clear language. Our very way of speaking is inherently dualistic. The best I can do, therefore, is speak in neologisms like psychoid, or parapsychology, or artificially force two contradictory words together such as psyche/matter, or subtle body. Contemporary panpsychism sometimes states that there is an element of mind in everything material. This is a patently unsatisfactory of putting it, but I do not have a better alternative.

Even worse, I know that explicitly linking the ontology of psyche to microphysics within the context of parapsychology, or alchemy, will make some people cringe. That fact, however, is a symptom not an argument. Cringing is a psychosomatic expression of fear, in this case perhaps the fear of being crazy, that can mask itself as contempt or disgust, or even pity. Where the soul cannot but cringe is where future developments come, where we seem to stand on the precipice of an alien world, even a world of madness, just as the philosopher’s stone was said to be found in the shit.

In Romanticism, as in Jung’s *Red Book*, madness plays a terrifying but also crucial role in the unfolding of the soul’s development. What is the role of madness in

Giegerich's theory of the soul's logical life? Does Giegerich embrace it? Do I? How does anyone? This seems to me to be the central question in our depth psychological tradition moving forward and the puzzle underneath all human life: How do we deal with the craziness as the old certainties break up? This question belongs to the wisdom of our tradition. The realization that we cannot make everything clear and transparent is a starting point, a difficult but honest recognition of our epistemological limits that opens a door that would otherwise bar the way—in the form of artificial certainty—to further explorations of the weird margins.

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NOTES

1. "We must, however, constantly bear in mind that what we mean by 'archetype' is in itself irrepresentable, but has effects which make visualizations of it possible, namely, the archetypal images and ideas. We meet with a similar situation in physics: there the smallest particles are themselves irrepresentable but have effects from the nature of which we can build up a model" (Jung, 1970, para. 417).
2. For many more examples of the perspective I am touching on here, please refer to a collection of essays by most of the pre-eminent physicists of the 20th century in *Quantum Questions* (2001), a book edited and with an introduction by Ken Wilber. See also *Quantum Enigma: Physics Encounters Consciousness* (2011), an excellent introduction to this topic for non-scientists by UC Santa Cruz professors Rosenblum and Kuttner.

FURTHER READING

- Anderson, D. (2021). The soul's logical life and Jungian schisms. *Psychological Perspectives*, 64(1), 37–53.
- Blake, W. (1982). *The complete poetry and prose of William Blake* (D. Erdman, Ed.). Anchor.
- Blunden, E. (1965). *Shelley: A life story*. Oxford University Press.
- Byron, L. (2005). *Don Juan* (T. G. Steffan, E. Steffan, & W. W. Pratt, Eds.). Penguin Classics.
- Campbell, J. (1968). *The hero with a thousand faces*. Princeton University Press.
- Coleridge, S. T. (1985). *Biographia literaria* (J. Engell & W. J. Bate, Eds.). Princeton University Press. (Original work published 1817)
- Coleridge, S. T. (2002). *The notebooks of Samuel Taylor Coleridge* (K. Coburn, C. Merton, & A. J. Harding, Eds.). Pantheon. (Original work published 1957)
- Coleridge, S. T. (2003). *The annotated ancient mariner*. Prometheus. (Original work published 1798)

- Dvorsky, G. (2015, December 11). Electron 'lifespan' is at least 5 quintillion times the life of the universe. *Gizmodo*. <https://gizmodo.com/electron-lifespan-is-at-least-5-quintillion-times-the-1747606990>
- Eddington, A. (2012). *The nature of the physical world: Gifford lectures (1927)*. Cambridge University Press. (Original work published 1928)
- Einstein, A. (1930, November 9). Religion and Science. *NY Times Magazine*, Section 5, 1–4.
- Einstein, A. (1954). *Ideas and opinions* (S. Bargmann, Trans.). Bonanza.
- Einstein, A. (1988). *Relativity: The special and general theory—A clear explanation that anyone can understand*. Wings. (Original work published 1916)
- Emerson, R. W. (1983). *Essays and lectures*. Library of America. (Original work published 1841)
- English Standard Version Bible. (2009). *The English standard version Bible: Containing the old and new testaments with apocrypha*. Oxford University Press.
- Giegerich, W. (2010). The soul always thinks. In *The collected English papers of Wolfgang Giegerich* (Vol. 4). Spring Journal Books.
- Giegerich, W. (2020). Technology and the soul: From the nuclear bomb to the world wide web. In *The collected English papers of Wolfgang Giegerich* (Vol. 2). Routledge. (Original work published 2007)
- Giles, S. (1993). *Theorizing modernism: Essays in critical theory*. Routledge.
- Goethe, W. (1994). *Goethe, the collected works: Faust I & II* (S. Atkins, Trans.). Princeton University Press.
- Gould, S. J. (1997). Non-Overlapping Magisteria. *Natural History*, 106, 16–22.
- Hoffman, D. (2019). *The case against reality: Why evolution hid the truth from our eyes*. W. W. Norton.
- Jean, J. (1938). *The mysterious universe*. Pelican.
- Jung, C. G. (1970). On the nature of the psyche (G. Adler & R. F. C. Hull, Trans.). In H. Read, M. Fordham, & G. Adler (Eds.), *The collected works of C. G. Jung* (Vol. 8). Princeton University Press.
- Jung, C. G. (1973). *Letters: Vol. 1: 1906–1950* (G. Adler & A. Jaffé, Eds.; R. F. C. Hull, Trans.). Princeton University Press.
- Jung, C. G. (1981). The archetypes and the collective unconscious (R. F. C. Hull, Trans.). In H. Read, M. Fordham, & G. Adler (Eds.), *The collected works of C. G. Jung* (Vol. 9i). Princeton University Press. (Original work published 1940)
- Jung, C. G. (1997). *Jung's seminar on Nietzsche's Zarathustra* (J. Jarrett, Ed.). Princeton University Press.
- Jung, C. G. (2010). *Answer to Job*. Princeton University Press.
- Jung, C. G. (2014a). Practice of psychotherapy (R. F. C. Hull, Trans.). In H. Read, M. Fordham, & G. Adler (Eds.), *The collected works of C. G. Jung* (Vol. 16). Princeton University Press.
- Jung, C. G., & Pauli, W. (2014b). *Atom and archetype: The Pauli/Jung letters 1932–1958* (C. A. Meier, Ed.). Princeton University Press.
- Keats, J. (1977). *John Keats: The complete poems* (J. Barnard, Ed.). Penguin. (Original work published 1819)
- Keats, J. (2015). *Selected letters* (J. Barnard, Ed.). Penguin.
- Kurzweil, R. (2006). *The singularity is near: When humans transcend biology*. Penguin.
- Lindorff, D. (2004). *Pauli and Jung: The meeting of two great minds*. Quest.
- McFarland, T. (1969). *Coleridge and the pantheist tradition*. Clarendon Press.
- Merriam-Webster. (n.d.). Imagination. *Merriam-Webster.com dictionary*. Retrieved June 18, 2020, from <https://www.merriam-webster.com/dictionary/imagination>.

- Ratcliff, S. (Ed.). (2017). *Oxford essential quotations*. Online version "Lord Byron." Oxford University Press. Retrieved July 2, 2020 from <http://oxfordreference.com>.
- Rosenblum, B., & Kuttner, F. (2011). *Quantum enigma: Physics encounters consciousness*. Oxford University Press.
- Schweizer, A., & Schweizer-Vüllers, R. (2016). *Stone by stone: Reflections on the psychology of C. G. Jung*. Daimon Verlag.
- Shelley, P. (1993). *The prose works of Percy Bysshe Shelley: Volume I* (A. B. Murray, Ed.). Clarendon Press.
- Shelley, P. (2009). *Percy Bysshe Shelley: The major works* (Z. Leader & M. O'Neill, Eds.). Oxford University Press.
- Stodolna, A. S., Rouzée, A., Lépine, F., Cohen, S., Robicheaux, F., Gijsbertsen, A., Jungmann, J. H., Bordas, C., & Vrakking, M. J. J. (2013). Hydrogen atoms under magnification: Direct observation of the nodal structure of stark states. *Physical Review Letters*, 110(21). <https://doi.org/10.1103/PhysRevLett.110.213001>
- Waller, A., Hoo, T., & Kurzweil, R. (Directors). (2008). *The singularity is near* [Film]. Terasem.
- Wilber, K. (Ed.). (2001). *Quantum questions: Mystical writings of the world's great physicists*. Shambhala.
- Woodman, R. (2005). *Sanity, madness, transformation: The psyche in Romanticism*. University of Toronto Press.
- Wordsworth, W. (1993). *The Fenwick notes of William Wordsworth* (J. Curtis, Ed.). Bristol Classical Press.
- Wordsworth, W. (1996). *The prelude*. Penguin. (Original work published 1850)
- Wordsworth, W. (2007). *The excursion* (S. Bushell, J. A. Butler, & M. C. Jaye, Eds.). Cornell University Press. (Original work published 1814)