

Atom and Archetype: The Pauli/Jung Letters, 1932-1958.

Edited by C.A. Meier. Trans. David Roscoe. Preface by Beverley Zabriskie.
Princeton: Princeton University Press, 2001.

Reviewed by Dennis Patrick Slattery

Letters are intimate, almost whispered conversations between people compared to the louder, more emphatic and detached voice that characterizes most books. They can reveal what transpires backstage that informs and gives shape to what takes place on stage. These letters, spanning over a quarter century, between the quantum physicist, Wolfgang Pauli and Carl Jung, are exciting in their complexity, provocative in their interdisciplinary thrust and illuminating in their profound attempt to bridge the divide between *physis* and *psyche*.

By means of them, one is able to glimpse the shifting influence of Pauli on Jung's thoughts about synchronicity, dream work and most importantly, about the existence of ordering principles that both the natural and psychological realms appear to share. We also receive an intimate look at Pauli's own profound professional and personal transformation resulting from meetings with Jung, his fascination with his own dreams and dream interpretation, and his growing expertise at becoming a bona fide Jungian!

Are the psychological and physical worlds indeed mirrors of one another? How are they alike? What makes them different? What can we say for certain that they share and actually reinforce in one another? These are, for me, the key questions raised and tentatively answered in this energetic exchange of two trail-blazing men in their respective fields. The collection of correspondences also allows us a glimpse into a time when letters were often as long, involved, and as carefully crafted as a paper presented at a conference or a chapter of a book. In fact, many of Jung's responses to Pauli did find their way, *mutatis mutandis*, into his collected works. Here we see Jung thinking on a different level as he responds to Pauli's dream interpretations, challenging Jung's theories or adding to Jung's own grasp of the psyche's movement, governed perhaps by the same laws and ordering principles that affect and inform the physical world.

Jung was later to write in "The Structure and Dynamics of the Self," one of his key statements on this relationship: "Psyche cannot be totally different from matter, for how otherwise could it move matter? And matter cannot be alien to psyche, for how else could matter produce psyche? Psyche and matter exist in one and the same world, and each partakes of the other..." (CW 9,2, 1970, par. 413). Their work was later to coalesce around the discoveries of the scientist and mystic, Johannes Kepler (1571-1630). The

book, *The Interpretation of Nature and of the Psyche* (New York: Pantheon Books, Bollingen Series LI, 1952), contains Jung's own work, "Synchronicity: An Acausal Connecting Principle" and Pauli's "The Influence of Archetypal Ideas on the Scientific Theories of Kepler." Their informal missives translated into this shared treatise, with Kepler as the catalyst for their own respective thoughts.

Kepler was very important to both physicist and psychologist for reasons stated by Pauli in Appendix 6 of *Atom and Archetype* (pp. 203-09). Pauli's own research revealed to him a direct lineage from Plato through Kepler to Jung on the notion of archetypes, eternal ideas that Kepler believed were implanted in the soul by the mind of God: "These primary images, which the soul can perceive with the aid of an innate 'instinct' are called by Kepler archetypal" (*Atom and Archetype*, p. 204), and are in agreement with "the primordial image' or archetypes introduced into modern psychology by C.G. Jung and functioning as 'instincts of imagination'...." (idem).

What attracted both men to Kepler's work was as much a world view as it was the content of his physics. In a hitherto unpublished essay by Pauli, "Modern Examples of 'Background Physics,'" he recounts that in the 17th century physics of Kepler, the physical and symbolic participated together as

a unity, leading both men to intuit the connective tissue between their disciplines through Kepler's work.

By means of these "instincts of the imagination," Pauli and Jung launched an intense exchange to discover correspondences—a network of analogies that would excite and convince both men of the analogies that hold *psyche* and *physis* together in an intimate, powerful and invisible partnership. But their meeting really began, as Beverley Zabriskie informs us in her penetrating Introduction, when "Pauli, in life distress and psychic despair, sought out Jung for direction in attending to his emotional and psychological pain" (*Atom and Archetype*, p. xxviii). As their relationship shifted from personal to professional, Pauli found in Jung's work some startling analogies to his own.

For example, in a letter dated 14 October 1935, as he was undergoing dream analysis with Jung, whom he met with regularly on Thursdays at noon, Pauli suggests that

the radioactive nucleus is an excellent symbol for the source of energy of the collective unconscious. It indicates that consciousness does not grow out of any activity that is inherent to it; rather, it is constantly being produced by an energy that comes from the depths of the unconscious and thus has been depicted in the forms of rays from time immemorial" (*Atom and Archetype*, p. 14).

In addition, Pauli readily concluded that “complementarity in physics... has a very close analogy with the terms ‘conscious’ and ‘unconscious’ in psychology, in that any ‘observation’ of unconscious contents entails fundamentally indefinable repercussions of the conscious on these very contents” (*Atom and Archetype*, p. 185).

The letters uncover as a whole Pauli’s growing excitement and his often restless pursuit to reveal the hidden analogies that he believed consistently governed the psychic and physical regions of being. In a letter to Jung dated 27 February 1952, as he relates one of his dreams (Jung eventually interpreted over 400 of Pauli’s dreams), the physicist recounts how a term from mathematics, “automorphism” cropped up. He claims that “it had the effect of a ‘mantra’” and that the dream was seeking “a *generic term...* that was to cover both your [Jung’s] concept of the archetypes as well as the physical laws of nature” (*Atom and Archetype*, p. 79).

Readers of the letters will be struck by Pauli’s desire to set up equations, correspondences, lists of analogies as ways to grasp the parallel universes, as it were, of physics and psychology. For example, in a lengthy and involved missive dated 27 February 1953, in responding to Jung’s recently published *Answer to Job*, Pauli outlines an intriguing chart comparing the two disciplines. I won’t duplicate it here, but only offer one

example: the chart reads “Quantum physics” on the left, “Psychology of the individuation process and the unconscious in general” on the right. (p. 91)

His last entry: under quantum physics: “The atom, consisting of nucleus and shell.” Under Psychology, “The human personality, consisting of ‘nucleus’ (or Self) and ‘Ego.’” (p. 92) The atom, for him, seems to have become the archetype of the human person.

The entire list within the impassioned letter to Jung depicts Pauli’s own fascination and at times obsession with discovering the elixir that will mix both realms, perhaps in his own pursuit of wholeness. He writes towards the end of the letter: “It is today the archetype of the *wholeness* of man from which natural science, now in the process of becoming quaternary, derives its emotional dynamics.” (p. 95) His letter marks, as it appears about midpoint in the collection, a heating up point, even an alchemical shift in the conversation; Jung seems to engage Pauli most intensely from this point on. As Pauli has begun speaking authoritatively as a psychologist, Jung begins making statements more conventionally ascribed to a physicist. Clearly, they have imaginably donned one another’s mantle.

To Pauli’s list, Jung responds in a letter of 7 March 1953 by adding to the physicist’s compilation: Jung juxtaposes “the smallest mass particle consists of corpuscle and wave” with “the archetype (as structure element of

the unconscious) consists of static form on the one hand and dynamics on the other.” (p. 99) Personally, I found that the letters take a decisive turn here, to become more engaged and engaging to the reader. It is as if the two men found their common ground with one another, had indeed even absorbed enough of one another’s lexicon to speak two languages—that of physics and psychology in a mutually shared imagination.

At this point Jung brings in explicitly the world of spirit, which has to this point in the conversation hovered along the margins. Now the duality of psyche-physics engages a third: the relation between matter—psyche—spirit. I want to quote Jung’s own realization of psyche and matter as a response to Pauli’s profound understanding of physics and psyche:

The psyche...as a medium participates in both Spirit and Matter. I am convinced that it (the psyche) is partly of a material nature. The archetypes, for example, are Ideas (in the Platonic sense) on the one hand, and yet are directly connected with physiological processes on the other; and in cases of synchronicity they are arrangers of physical circumstances, so that they can also be regarded as a characteristic of Matter (as the feature which imbues it with meaning). (pp. 100-01)

Always with dream interpretation as the governing principle that leads both men into deeper and more varied terrains, this section of the letters moves out to discussions of numbers as the most basic archetypes, the nature and dynamics of synchronicity, what Pauli will label the “unconscious

physics” of analytical psychology (p. 109) and their respective searches for a “proper lexicon” that will allow more and deeper conversation between the physics of psyche and the psychology of physics. These pages, from about 84 through 113 constitute “the nucleus,” or core of the correspondence, from my perspective. Both men, through the windows of their respective disciplines, do come to one shared agreement: that “psyche and matter are governed by common, neutral, not in themselves ascertainable ordering principles” (p.117).

Nonetheless, and without being ascertainable, these principles of order do allow Jung in a letter of 24 October 1953 to suggest the following schema to Pauli:

	psyche	
Drives, affects		thinking, abstraction,
sensory activities,		perceiving
life of the <i>body</i>		<i>spirit</i>
	physis	
	material or physical manifestations	(p. 126)

Jung states in this same letter: “*Psyche* is for me, as you know, a general term indicating the ‘substance’ of all phenomena of the inner world. . . .

Spirit, however, characterizes a specific category of this substance—namely, all those contents that cannot be derived either from the body or from the

external world.” (p. 126) Jung’s diagram is his attempt to reveal to Pauli how psyche can be seen as parallel to matter. Psyche is also “ a *matrix* based on the mother archetype.” (p.126). Spirit, however “is masculine and is based on the *Father archetype*” and in a patriarchal age, “claims precedence over both the psyche and matter.” (p. 126).

From such a schema Jung extrapolates an insight that melds both disciplines into a coniunctio: “The characteristic that is peculiar to the archetype is that it manifests itself not only psychically-subjectively but also physically-objectively; in other words, it is possible that it can be proved to be both a psychic inner occurrence and also a physical external one” (p. 126). He concludes: “the physical and psychic matrix is identical.” His diagram attempts to assess visually the deep analogies shared by psyche and physics as they yoke spirit and matter. One wonders if Jung’s thought would ever have run along these grooves had not Pauli pushed him into it with his own analogical thinking about physics, dreams and analytical psychology. Clearly Pauli facilitated Jung’s thought if not actually directing it.

Then follows a long letter, a treatise almost, by Pauli dated 23 October 1956, which he titles “STATEMENTS BY THE PSYCHE,” an expression of gratitude to Jung for his recently-published *Mysterium Coniunctionis*. In the process of narrating a long dream sequence, Pauli concludes his

description of a recurring image, whom he calls “The Dark Woman,” by speculating that “there seems to be no essential difference between mirror symmetries in radioactive beta decay and multiple manifestations of an archetype” (p. 165), which prompts a response from Jung on his own research into flying saucers. These sightings and insights by Jung will end the “letters” portion of the volume just before the extensive appendices, numbering 12 and containing unpublished essays by Pauli, former lectures, as well as notes by Jung and others on the subject of synchronicity.

Jung’s speculations about UFOs are fascinating and once again wed matter to psyche: “the UFO myth represents the projected—that is, concretized—symbolism of the individuation process.” (p. 166). As such, he suggests that they are “statements from the unconscious” and indeed portray the ultimate superiority of the unconscious over consciousness. He ends his letter with a note of gratitude to Pauli and finds himself “deeply impressed by the ‘conformity’ of physical and psychological thought processes, which can only be regarded as synchronistic.” (p. 169).

Taken together, these letters expose two curious, penetrating, insightful minds in an intense collaboration. In fact, the letters are a witness to how learning can take place, how in imagining himself into the psyche of another, one finds his own thought transformed, reshaped, given new life in

the presence of the other. Jung and Pauli are in important ways “of imagination all compact.” Witness them learn from one another, put their own new thinking on the line for critique, share their mutual respect and admiration, their courage to confront and challenge one another. All this is as important for me to observe as is the content of their inquiry. That it took place so powerfully and consistently through letters, makes me want to return to that older form of communication, a slower missive method than email, faxes or sound-bytes, in which the musing is slow, calculated and full of surprises.

Both of these leaders in their respective fields, who responded to one another with a courteous scrutiny borne of reflecting for decades on their respective fields of passion, inspire one to retrieve that world Keats gave voice to in “Ode on a Grecian Urn,” to become a “foster-child of silence and slow time,” that letter writing promotes and encourages.

Dennis Patrick Slattery is a Core Faculty member in the Mythological Studies Program at Pacifica Graduate Institute in Carpinteria, California. His latest book, co-edited with Lionel Corbett, is *Psychology at the Threshold: Selected Papers* (Pacifica Graduate Institute Press, 2002).

