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Beyond synchronicity: the worldview of Carl Gustav Jung and Wolfgang Pauli

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Abstract: While exploring the phenomena of synchronicity, Carl Gustav Jung became acquainted with the quantum physicist Wolfgang Pauli and eventually began a collaboration with him. During that collaboration Jung's study of synchronistic phenomena underwent a considerable change; prior to the collaboration, Jung had stressed mainly the phenomenological and empirical features of synchronistic phenomena, while in association with Pauli, he focused his attention upon their ontological, archetypal character. Pauli, on the other hand, became increasingly sensitive to the philosophical aspects concerning the unconscious. Jung and Pauli's common reflections went far beyond psychology and physics, entering into the realm where the two areas meet in the philosophy of nature. In fact, as a consequence of their collaboration, synchronicity was transformed from an empirical concept into a fundamental explanatory-interpretative principle, which together with causality could possibly lead to a more complete worldview. Exploring the problematic character of the synchronicity concept has a heuristic value because it leads to the reconsideration of the philosophical issues that drove Jung and Pauli to clear up the conceptual background of their thoughts. Within the philosophical worldview arising from Jung and Pauli's discussions about synchronicity, there are many symbolic aspects that go against mainstream science and that represent a sort of criticism to some of the commonly held views of present day science.

Key words: archetypes, Jung, Pauli, philosophy of nature, synchronicity, philosophical worldview.

*The philosophical context of the synchronicity concept

In his *Über einige Motive bei Baudelaire* Walter Benjamin points out a particular phenomenon spreading in our modern world, namely the 'withdrawal of the *aura*' ('Der Verfall der Aura', Benjamin 1939, pp. 646–8). Benjamin's observation affirms the perspective of the poet Charles Baudelaire that photography dispels the magic outline, or *aura*, surrounding the things we use every

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day. The problem is that a camera captures a person's image without returning any 'glance', but implied in every glance is the anticipation of the glance being returned. When this expectation is fully satisfied, we experience the *aura* of something. In Benjamin's opinion the *aura* experience is based on transferring a commonly experienced reaction from human relationships to the relationship between inanimate nature and mankind. 'To feel the *aura* of something means to give it the power of returning our glances'.

If our modern world often seems to be meaningless, perhaps this is a consequence of the fact that the objects that surround us have lost their *aura*, and have no more power to 'return a glance'. Objects are reduced to mere functional apparatuses which are seen to be useful only if they satisfy our material needs. Carl Gustav Jung suggested a form of psychological animism in which we might treat objects in a different way, taking special care of them almost as if they were alive. The relationship between subject and object should always be conceived as a changing and dynamical connection (for details about Jung's relationship with objects, see Jung 1962). According to Paul Valéry (see Benjamin 1939) it is only in dreams that there is still an *auratic* kind of perception. However, synchronistic phenomena also seem to give objects the power to reciprocate a human glance; thus synchronicity might be considered to be an *auratic* experience that reveals the very deep bond connecting man with nature, with both conceived as living beings as in Renaissance philosophy.

From a certain point of view, the concept of the *aura* of things in Benjamin is not far from what Jung calls 'numinous', so by speaking of the synchronistic phenomena as an *auratic* experience, one means a *numinous* experience in Jungian terms. As it is known, Jung borrowed the term *numinosum* used by Rudolf Otto. It derives from the Latin *nuere*, that means 'to show signs', also through the action of fate or of a divinity (for details, see Jung 1938–40 & 1960).

Many philosophers of the past have spoken of a special correspondence or sympathy between man and the universe. Frances Yates has pointed out the role played by the Neo-Platonic *anima mundi* or 'soul of the world' in the development of this conception (Yates 1964, p. 64). Because it is present everywhere, the soul of the world acts as a sort of *medium* that assures the universal connection with everything, thus justifying philosophically the Renaissance concept of correspondence[1] between macrocosm and microcosm. While exploring the synchronicity concept in *Philosophical Issues in the Psychology of C.G.Jung*, Marilyn Nagy stresses the role of the Platonic influence upon Jung's theory of archetypes. When discussing synchronistic

[1] The correspondence between macrocosm and microcosm may be considered as an evolution of the Stoic doctrine concerning universal sympathy that was formulated by Zeno, the stoic philosopher born in Cyprus in the fourth century BC. The relationship between the Neo-Platonic trend and Jungian psychology has been investigated by James Hillman (1974, 1982).

events as manifestations of archetypes, she also arrives at the concept of the world soul:

> In spite of Jung's caveat against philosophical interpretation, it [synchronicity] resembles nothing so much as Plato's vision of a universe ordered by the eternal forms, directed by the World Soul, and limited in the perpetration of divine order only by the parallel existing facts of Necessary Cause.
>
> (Nagy 1991, pp. 185–6)

Nagy's interpretation of the Jungian thought is not wholly accurate, because, as her book itself has shown, it is almost impossible to fit Jung's worldview into only one philosophical trend. When reading Jung's works, one very often finds a *coincidentia oppositorum* of traditional philosophical points of view. For example, an empirical method for studying phenomena is used by Jung which in the long run incorporates more and more idealistic features—undoubtedly Kant's philosophy, with its mixture of empirical and idealistic features, held great influence over Jung's ideas—creating a peculiar mixture that deeply characterizes Jungian thought (for a purely phenomenological approach to Jung's psychology which leaves out the idealistic features, see Brooke 1991). It would be a mistake to separate or stress just one of these philosophical trends which an old and long tradition of thought considered to be opposites.

Nagy also raises another relevant issue, which is Jung's attitude toward any philosophical interpretation of his ideas. Hence, while Jung himself says that 'synchronicity is a modern differentiation of the obsolete concept of correspondence, sympathy, and harmony' (Jung 1952b, para. 995), he nevertheless denies his own concept any philosophical premise. But is synchronicity really based only on observation and experiments—that is, for the traditional thought, on no philosophical premise at all[2]—or is something missing in Jung's statements? As will be argued, from a certain point of view Jung is right, because it is his original intention for his idea of synchronicity to have no philosophical premise, but later, thanks to Pauli's contribution, it developed into a philosophical achievement.

Jung's initial development of the synchronicity concept

As Carl Gustav Jung studied the phenomena of synchronicity, he recognized their potential power for psychological transformation in the people who experienced them (see Jung's remarks after telling the famous story about the

[2] In the past there was the firm belief that observation could be pure, that is just empirically based, without links to abstract and philosophical theories. N. Russel Hanson underlined 'the 'theory-laden' character of 'causal talk', showing that it is hard to find an observation which can be defined as pure in the sense that is deprived of any interpretation. In his words, 'observation is theory loaded'. See N. R. Hanson 1958, pp. 4–30 & 54–69.

golden scarab: Jung, 1952a; regarding definitions of the synchronicity concept, see Jung 1952b). In fact, he found that a synchronistic event—the meaningful coincidence of an inner image with an outer event—can often let one see the world in a new light, especially if one responds very deeply, with the full involvement of his or her being to the meaning of the event (Mansfield 1995).

After having observed and collected a great number of meaningful coincidences, Jung decided to introduce an empirical concept in order to classify those strange phenomena. As David Lindorff points out (1995b, p. 574), Jung first used the term 'synchronism' in a dream seminar held in 1928 (McGuire 1982, p. 44), in order 'to account for what he called non-causal coincidences'. In 1930 Jung began to call such a concept a 'synchronicity principle' (see the memorial address for Richard Wilhelm in Jung 1957, pp. 53–62), and he refers to it in his reflections upon the archetypes.

The history of the development of the concept of the archetype reveals how this conception grew richer throughout the years and eventually played a crucial role in Jung's development of the synchronicity concept. In his initial publications on this topic Jung speaks of 'archetypes' and 'original primordial images' as synonymous, while later he draws a distinction between the archetype *as such* and its manifold phenomenal *manifestations* (images). By doing so, he showed his increasing interest in the ultimate structures of reality that cannot be considered as reducible to the empirically observed phenomena. In 'On the nature of the psyche' (1954a), Jung states:

> The archetypal representations (images and ideas) mediated to us by the unconscious should not be confused with the archetype as such. They are very varied structures which all point back to one essentially 'irrepresentable' basic form [. . .]. The archetype as such is a psychoid factor that belongs, as it were, to the invisible, ultraviolet end of the psychic spectrum. It does not appear, in itself, to be capable of reaching consciousness.
>
> (para. 417)

Jung uses the word *psychoid* in order to describe the character of the *archetype as such*, which is neither purely psychical nor merely physical. With this particular expression Jung points to the psycho-physical nature of the archetype and at the unitary reality consisting of both *psyche* and *physis* that he refers to as *transcendental*, because it underlies the whole of our phenomenal world and is intrinsically unknowable. Of course, these concepts are clearly related to Kant's philosophy, as Jung himself attests in many passages (Jung 1954b). On the surface it is not difficult to see Jung's archetype as such as a kind of Kantian *noumenon* which indicates the unknowable reality underlying every phenomenon, whereas the archetypal representation might be interpreted as a *phenomenon* that can be grasped by cognitive means. Despite any apparent connection with Kant's philosophy, however, it is necessary to underscore that there is no identity of contents between the Jungian archetype as such and the Kantian *noumenon* because Jung features

the archetype as dynamical and non-rational,[3] whereas the *noumenon* is characterized by rationality and unchangeableness. It is possible, therefore, to place Jung near Kant only to the extent that both of them postulate the existence of a reality that is placed beyond the phenomenal world and is in itself unknowable.[4]

The relation between the concept of the archetype and the Platonic ideas raises a similar question. Jung himself defines the archetype as synonymous with the Platonic Idea (Jung 1954b, para. 149). However, Marie Louise von Franz in her *Psyche and Matter* points out the essential difference between the Platonic idea and the Jungian archetype: the former is in fact conceived of 'as a purely cognitive content, whereas an archetype might as easily manifest as a feeling, an emotion or a mythological fantasy. Thus the Jungian archetype is a somewhat broader concept than the Platonic idea' (von Franz 1992, p. 6). Jung disapproved of the philosophical trend that over the centuries concealed the archetypes' instinctual and non-rational side in order to reduce them to intellectual categories, with the consequent loss of their metaphysical value (Jung 1948, paras. 263–82). Physicist Charles R. Card likewise has underscored the archetype's dynamical character in contrast to the changelessness of the Platonic ideas (Card 1991, p. 22):

> [Jung] felt that the concept of archetype 'puts the Platonic Ideas on an empirical basis'. However, the Idea is conceived as transcendent and immutable, whereas the archetype has an inherent dynamism. The Idea is a model of 'supreme perfection in the luminous sense', whereas the archetype is 'bipolar, embodying the dark side as well as the light'.

Despite differing interpretations, Plato's philosophy is based on the central role played by the Ideas, which enjoy a full ontological status. By contrast, the phenomenal world is ontologically degraded to be an imperfect copy of the ideal and eternal world. In Jung, however, there is no trace of an ontological degradation of phenomenal aspects. The distinction between the archetype as such and its manifestation is never developed in order to give the archetype-*Idea* an absolute ontological supremacy. Moreover, the Platonic dualism between the sensible and the intelligible worlds, stated on an ontological level, implies an analogous distinction from an epistemological point of view. The knowledge of images, which give a picture of the sensible world, is obtained, according to Plato, through imagination (*eikasía*) and belief (*pístis*), and this knowledge leads to the acquisition of opinions (*dóxa*), whereas only the knowledge of Ideas achieved rationally through reason (*diánoia*) and intellect

[3] By the expression 'non-rational' we mean that the formulation of the archetype concept transcends the sphere of a purely rational definition and includes emotional aspects. Anyway we prefer 'non-rational' rather than 'irrational' in order to avoid the opposition between rational and irrational, which could be misleading in this context.

[4] For a better understanding of what Kant means by the terms *phenomenon* and *noumenon*, see Kant 1781, pp. 96–9.

(*noûs*), can be defined as science (*epistéme*) (for details, see Adam 1963, Book VII). Unlike Plato, Jung never judges rational and intellectual knowledge as the only kind of true knowledge. In Jung's opinion knowledge is valid *only if* it is lived *both* intellectually *and* emotionally; he is aware of the relevant role played by phenomena, including their emotional aspect,[5] because they represent the only way to acquire some sort of knowledge of the transcendental psychophysical reality that is supposed to exist beyond them. Within this unitary reality it is not difficult to locate the collective unconscious, that is the metaphorical 'place' of origin of the archetypes as such. Reviving an alchemical expression, Jung called such a reality the *unus mundus*. As Marie-Louise von Franz (1992, p. 40) states explicitly:

> When he created the concept of synchronicity, Jung laid a foundation which might lead us to see the complementary realms of psyche and matter as *one* reality [...]. Synchronistic events thus seem to point towards a *unitary aspect of existence* which transcends our conscious grasp and which Jung called the *unus mundus*.

In a concluding passage of his essay 'On the nature of the psyche', Jung outlined the hypothesis of an inherent unitary reality where psyche and matter are 'two different aspects of the same thing', because 'they are included in one and the same world'. This is not a purely theoretical statement because it is derived and somehow corroborated by the existence of synchronistic events. Thus synchronicity plays a special role inside analytical psychology, because it reveals the presence of some phenomena from which one can derive theoretical conclusions that involve different levels, ranging from psychological to ontological-metaphysical areas of thought. In addition to a methodological approach in Jung's work that is clearly empirical, there is a metaphysical concern that establishes a philosophical involvement with ontological issues to the discussion of synchronicity. In a letter to Michael Fordham (3 January 1957), Jung admits his fervent interest in the metaphysical aspect of these phenomena:

> I well understand that you prefer to emphasize the archetypal implication in synchronicity. This aspect is certainly most important from the psychological angle, but *I must say that I am equally interested, at times even more so, in the metaphysical aspect of the phenomena*, and in the question: how does it come that even inanimate objects are capable of behaving as if they were acquainted with my thoughts? This is, as the above formulation shows, a thoroughly paranoid speculation which one had better not ventilate in public, but *I cannot deny my fervent interest in this aspect of the problem*.
>
> (Jung 1973, pp. 343–4; author's italics)

From this point of view, synchronistic phenomena become the empirical manifestation of a transcendental realm that pervades the universe as a whole.

[5] James Hillman has stressed the important role played by emotional aspects in analytical psychology, above all pointing out a different kind of thought, called 'thought of the heart'; see Hillman 1979, pp. 133–82.

However, Marie-Louise von Franz observed that notwithstanding his metaphysical interests (or maybe owing to them), Jung 'discovered that the synchronistic phenomena provide *empirical* evidence for the existence of such an *unus mundus*' (von Franz 1992, p. 41). Thus for Jung synchronistic phenomena represent the empirical test corroborating the existence of the *unus mundus*, without which it would be just a theoretical speculation. Consequently, synchronicity is tightly bound to the *unus mundus*-collective unconscious and to the archetypes as such. In fact, Jung proposed that there is a 'constellated' archetype whenever synchronistic phenomena occur. At first he studied synchronistic events from an empirical point of view, without any overt philosophical purpose, but over the years as his thought deepened, synchronicity became the empirical manifestation of the archetype's psychoid nature and of the transcendental unity of *psyche* and *physis*, that is manifested in the coincidence between a psychical and a physical event.

The above considerations suggest how the idea of synchronicity matured as the result of Jung's theoretical reflections. There is a related question, of what exactly was Pauli's contribution? In what follows it will be shown that through the collaboration with Pauli, Jung's view of synchronistic phenomena underwent a change with increased emphasis on the ontological-archetypal basis of synchronistic phenomena rather than on their empirical-phenomenological aspects.

Pauli's contribution to the development of the synchronicity concept

Nowadays, more and more is known about Wolfgang Pauli beyond the facts and circumstances by which he became a Nobel Prize winning physicist. In fact, in his early thirties Pauli went through an emotional crisis which led him to ask for Jung's help. He has been described as 'a very one-sided thinking intuitive who had been cut off from feeling [...] and confronted by his bestial foundations' (Lindorff 1995a, p. 556). During his psychological treatment Pauli began to experience 'an archetypal journey marked by the emergence of symbols of wholeness' (*ibid.*). It was a sort of 'religious conversion', in the sense that a confirmed atheist became aware of 'things that cannot and should not be explained from material causes' (Lindorff 1995a, p. 556; Hermann et al. 1979, p. xxi). This seemed to 'support Jung's statement that "behind every neurosis there is a religious problem"' (Lindorff 1995a, p. 556). Because of its inherent interest, Pauli's world of dreams has been widely investigated by many people: firstly, by Pauli himself, with the help of his therapist Erna Rosenbaum (one of Jung's female students), then by Jung himself, and more recently by van Erkelens, Enz, and Lindorff (van Erkelens 1991 & 1993b; Enz 1992; Lindorff 1995a).

In addition, Pauli's cultural, psychological and philosophical interests have come under much scrutiny in recent years, as witnessed by various publications (these include Card 1991, 1992; Laurikainen 1988; Peat 1988; van

Erkelens 1993a; Stapp 1992; Lindorff 1995b; Atmanspacher & Primas 1996). However, until the publication of the correspondence between Pauli and Jung (Meier 1992; 2001), just a few of his essays (most of which can be found in Pauli 1961) revealed his deep interests in psychological and philosophical issues of which most contemporary physicists were, and remain, unaware. Perhaps the most important among these essays is Pauli's writing on Kepler, which was his contribution to *The Interpretation of Nature and Psyche*,[6] the volume published jointly with Jung that included Jung's essay on synchronicity. Kalervo Laurikainen (1988, p. 140) has pointed out that concerning synchronicity, 'Pauli considered the connection between his own thought and that of Jung's to be so important [...] that he forbade the translation of his article on Kepler into English without Jung's article on synchronicity'.

In his Kepler essay, Pauli expressed an interest in the origin and development of scientific theories, and for that reason he began to study seventeenth century philosophical thought where he hoped to find the origin of many unsolved problems that contemporary science still has to face, such as the nature of the link between psyche and matter. Pauli found that in certain Renaissance texts such as those of Robert Fludd, a symbol may often appear that possesses at the same time a religious, magic and scientific meaning with no clear distinction between these levels of meaning. The similarity of these symbols with those occurring in his own dreams fascinated Pauli and led him to write his monograph on Kepler (for an explicit statement by Pauli concerning the role of his dreams in leading him to complete his essay on Kepler, see Meier 1992, letter n. 32, p. 35; Meier 2001, p. 31).

In his essay Pauli stands apart from pure empiricism–the philosophical trend that considers natural laws to be the result of mere experience. Pauli, on the contrary, points out the considerable role of intuition in developing 'the concepts and ideas, generally far transcending mere experience, that are necessary for the erection of a system of natural laws (that is, a scientific theory)' (Pauli 1955, pp. 151–152). Pauli faces the old philosophical question about 'the nature of the bridge between the sense perceptions and the concepts', and arrives 'at the conclusion that pure logic is fundamentally incapable of constructing such a link'. He further concludes that it is necessary to postulate 'a cosmic order independent of our choice and distinct from the world of phenomena'. This objective order should include 'both the soul of the perceiver and that which is recognized by perception', and 'every partial recognition of [...its existence...] in nature leads to the formulation of statements that, on the one hand, concern the world of phenomena and, on the other, transcend it by employing, 'idealizingly', general logical concepts'. This leads Pauli to define the process of understanding nature as one that is [...] 'based on a correspondence,

[6] Pauli 1955, pp. 147–212. The Jungian side of Pauli was already discovered and outlined by Robert Westman, who analysed only Pauli's essay on Kepler, without reference to the correspondence between Pauli and Jung which was unavailable at that time. See Westman 1984, pp. 177–229.

a "matching" of inner images pre-existent in the human psyche with external objects and their behaviour'. He is aware that behind this conception there is a great philosophical tradition, going back from Kepler to Plato, and that is why he is so interested in the former. In fact, Kepler calls 'archetypal' (*archetypalis*) the primary images 'that are pre-existent in the mind of God' and which 'the soul can perceive with the aid of an innate "instinct"'; and Pauli does not fail to point out their essential agreement with Jungian archetypes. He is particularly interested in this 'archaic level of cognition', where images with strong emotional content take the place of clear concepts:

> Inasmuch as these images are an 'expression of a dimly suspected but still unknown state of affairs' they can also be termed symbolical, in accordance with the definition of the symbol proposed by C. G. Jung. As *ordering* operators and image-formers in this world of symbolical images, the archetypes thus function as the sought-for bridge between the sense perceptions and ideas and are, accordingly, a necessary presupposition even for evolving a scientific theory of nature.
>
> (Pauli 1955, p. 153)

This passage is particularly meaningful because it reveals Pauli's acceptance of two of the most important Jungian concepts—the symbol and the archetype.

It is necessary, however, to underscore that Pauli's acceptance is not at all passive. Instead he elaborates Jung's ideas on the ground of his own philosophical and epistemological interests, with the result that the archetypes become the solution of the old philosophical question mentioned previously, because they function, 'as the sought-for bridge between the sense perceptions and the ideas'. Moreover, by stating that the archetypes are 'a necessary presupposition even for evolving a scientific theory of nature', Pauli goes beyond Jung's specific purposes, revealing his own opinion that science has an archetypal basis and encouraging scientists to search for its archetypal foundation. This becomes clear also in the discussions about synchronicity he had with Jung.

Jung involved Pauli in his studies of synchronistic phenomena, expecting from him collaboration based on his scientific knowledge. As for Pauli, he undertook the task of promoting and encouraging Jung to compose the essay on synchronicity, as Jung explicitly confesses in a letter (22 June 1949) in which he also asks Pauli for a critique of his writing (Meier 1992, p. 40; 2001, p. 36). Pauli's critical contribution is aimed at helping Jung to clear up and define precisely some conceptual formulations which at first sight might be considered to be misleading. Notwithstanding any difference of opinion expressed during their correspondence, Jung and Pauli agree upon 'the possibility and usefulness [...] of a further principle of interpretation of nature other than the causal principle' (Meier 1992, p. 56; 2001, p. 53).

However, an important difference between Jung's and Pauli's points of view concerns the relationship between synchronistic and quantum phenomena. Whereas Jung tended to establish analogies between the two kinds of phenomena,

Pauli stressed mainly their difference, namely that synchronistic events were non-reproducible. In his opinion the only feature both of them certainly share is 'going beyond the framework of "classical" determinism' (Meier 1992, p. 58; 2001, p. 55). Pauli recalls that every experimental science is based on the possibility of reproducing experiments and that in quantum physics in order to satisfy this condition, one pays a very high price, accepting the statistical character of natural laws. Pauli, in fact, identifies 'statistical correspondence' as the kind of law that 'acts as a mediator between the discontinuum of individual cases' that are themselves non-reproducible, 'and the continuum that can only be realized (approximately) in a large-scale statistical framework'. He feels that 'the statistical correspondence of quantum physics, seen from the point of view of synchronicity, is a very *weak* generalization of the old causality'. This is clear when one considers that in microphysics there is some place for an acausal form of observation, whereas there is no trace of the concept of 'meaning' (Meier 1992, pp. 58–59; 2001, p. 56). In Pauli's opinion, the possibility of reproducing the statistical regularities of microphysical natural laws represents 'such a fundamental difference between the acausal physical phenomena [...] and the "synchronistic" phenomena' that it is necessary to conceive of them 'as *phenomena or effects on different levels*' (Meier 1992, pp. 58–59; 2001, pp. 55–56). This may certainly be considered as Pauli's main conceptual contribution to the formulation of the synchronicity idea, because it leads Jung to give a double definition of the concept. It is just because Jung admits a difference of levels between the synchronistic and the quantum phenomena that he asks himself (30 November 1950) if there exists a more general order that contains both phenomena, and by doing so, he shifts from an empirical background to an ontological approach:

> Insofar as for me synchronicity represents first and foremost a simple state of being, I am inclined to subsume any instance of causally nonconceivable states of being into the category of synchronicity. The psychic and half-psychic cases of synchronicity would be the one subcategory, the nonpsychic ones the other. Insofar as physical discontinuities prove to be causally no further irreducible, they represent a 'so-ness' ['So-sein'], or a unique ordering factor or a 'creative act', just as well as any case of synchronicity. I fully agree with you that these 'effects' are on various levels, and conceptual distinctions should be made between them. I just wanted to outline the general picture of synchronicity.
>
> (Meier 1992, p. 63; 2001, p. 60)

In this passage Jung's aim becomes clear: he wishes to develop a global acausal conception of reality that includes both synchronistic and quantum physical phenomena. At this point synchronicity has been transformed from an empirical concept, as it was in the first formulations of Jung's research on this topic, into a principle that seems to belong more to the realm of philosophy of nature rather than only to that of psychological research. Pauli was aware of the deep change taking place within the synchronicity concept. Above all, in a letter to

Fierz (3 June 1952) he expresses his opinion that 'the chapter IV in Jung's work appears to be something more than a "summary"; it looks like his intellectual legacy, something which is pushing its way away from special "analytic psychology" into the philosophy of nature in general and the psycho-physical problem in particular' (Laurikainen 1988, p. 225; see also Pauli's letter to Jung, dated December 12th 1950, in Meier 1992, p. 67; 2001, p. 65).

Facing the evident difference between synchronistic and quantum phenomena, Jung elaborated a double definition of synchronicity: in a strict sense, it includes a psychical character that reveals itself to be connected with a physical event. From this point of view, synchronicity in the narrow sense is clearly distinguished from the microphysical phenomena in which there is neither the direct participation of the observer's psyche nor the relevant presence of 'meaning'. But one could postulate the existence of a wider acausal order, a 'so-ness', that would include every contingent event whose manifestation expresses a certain inner uniqueness, almost as if it were a creative act. In such a wider order it would be possible to include the discontinuities of microphysics, too, which reveal an individual character whenever they are considered singularly.

As we have seen, with this dual definition of synchronicity, Jung clearly expressed his inclination to develop a worldview. Pauli accepted such a global conception of reality, stating (12 December 1950) that he did not adopt the wider definition of the concept before, because there was the fear that 'too much might get lost that is specific to psychic and half-psychic synchronicity' (Meier 1992, p. 66; 2001, p. 63). Pauli was afraid that upon adopting a wider definition of the concept, one could forget to consider the importance of 'meaning' and the idea of the psychoid archetype. As a consequence, he asked himself how it is possible to conceive of a general category that includes the ordering archetype as a specific case:

> In cases of non-psychic acausality [...] the statistical result as such is reproducible, which is why one can speak here of a 'law of probability' instead of an 'ordering factor' (archetype). Just as the mantic methods point to the archetypal element in the concept of number, the archetypal element in quantum physics is to be found in the (mathematical) concept of probability- i.e., in the actual correspondence between the expected result, worked out with the aid of this concept, and the empirically measured frequencies.
>
> (Meier 1992, p. 66; 2001, p. 64)

Jung was excited to see his idea of archetype side-by-side with that of mathematical probability, even though he realized that it is necessary to modify the concept of archetype in order to consider its possible application to physical reality. Then Jung (13 January 1951) asked himself some questions that led him to sketch a worldview that was actively shared by Pauli: if the psychoid nature of archetypes has something to do with physical phenomena, then why should archetypes be involved solely in psychical events? Moreover, if the

Renaissance idea of *correspondentia* included nature as a whole, why should we limit ourselves to consider just what is psychical? It might be that one and the same reality is expressed physically through the mathematical laws of probability and psychically as manifestations of archetypes. Then when considering psychical synchronicities, the problem arises whether one should see its 'archetypal distinctive feature' as included in a more general acausal order, or if this general acausality should be subordinated to the universal value of the archetype (Meier 1992, pp. 71–2; 2001, p. 69). The second hypothesis is very attractive because it leads to the formulation of just one concept that would be able to account for both physical and psychical reality. Thus, after long discussions about synchronicity, both Jung and Pauli aimed at the achievement of a worldview about nature conceived as a whole. They had reached the previously mentioned turning point in the development of the synchronicity concept where they were able to move beyond a mainly empirical psychological approach to the realm of philosophy of nature. It is Pauli (12 December 1950), in fact, who led Jung in this direction:

> [...] *I have once again carefully weighed up the pros and cons of the narrower and broader definitions of 'synchronicity'*. Pure logic gives us a free hand to choose either definition. In such a case, the deciding factor is intuition, pointing the way to the future as it does, but this is psychology and the branch of psychology that I am particularly interested in- namely, the formation of scientific concepts ['naturwissenschaftliche Begriffsbildung']. With me, the intuitive function has such a strong tendency toward the apprehension of holistic structures that *despite all arguments to the contrary, I find myself leaning toward your broader definition*: Given the impossibility of a direct application of the concept ['Begriff'] of 'archetype' in microphysics, I am more inclined to believe that the present [idea] ['Begriff'] [of] 'archetype' [is not still consistent enough] ['noch ungenügend'], rather than that your broader definition is in itself inappropriate.
>
> (Meier 1992, p. 67; 2001, p. 65; author's italics)[7]

Pauli's critical reflections induced Jung to widen his definition of synchronicity. Under the influence of his own intuitive function, Pauli accepted very willingly the enlargement of the Jungian concept, provided that Jung kept his discussion of synchronistic phenomena in a narrow sense clearly separated from the quantum physical discontinuities. It is interesting that Pauli was moved to accept the wider definition of synchronicity as the result of his intuition, especially as for Jung intuition is that psychological function which allows a person to capture the overall structure of an object independently of

[7] First, 'naturwissenschaftiche Begriffsbildung' is translated into 'the formation of scientific concepts' instead of 'the scientific formation of concepts', in fact Pauli was interested in the genesis of scientific ideas: this process in itself is mainly psychological than scientific. Second, I have translated here the German 'Der Begriff' into the English 'concept' or 'idea', instead of 'term', as reported in Meier 2001. And third, I used to translate the German 'noch ungenügend' into the English 'is not still consistent enough' instead of 'is inadequate', since Pauli believed that the idea of archetype was still not developed enough to include the quantum phenomena.

the present conscious and partial perception that one can have of it (for a definition of intuition as a psychological function, see Jung 1921, paras. 770–773). Thus Pauli's disposition to accept the wider definition of synchronicity was favoured by his unconscious inclination to search for overall structures and worldviews—an inclination that he experienced as a deep personal need, too.

The importance of shifting from a stricter definition of synchronicity to a wider one should not be underestimated. If Jung had formulated only its stricter version, the concept of synchronicity would have retained its essential empirical character—namely that there are some very rare phenomena that we do not know how to explain, that neither have affinity with other known events nor permit a causal interpretation, and that therefore cannot be included in a wider conceptual frame. On the contrary, the more general formulation of synchronicity changes from a purely *empirical concept* to a possible explicative *principle* that takes its place beside causality in the realm of philosophy of nature. Synchronicity, owing to Jung and Pauli's collaboration, acquires a somewhat revolutionary character—it leads to a fundamental change of worldview, apart and beyond what it may mean for the life of an individual. It turns from being an empirical concept gathering a series of subjective phenomena to become a philosophical principle belonging to an objective field of studies. The same view of synchronicity as belonging to an objective field of studies is shared by Joseph Cambray in his fine contribution (2002, pp. 415–7) where according to a scientific perspective based in complexity theory, studying complex adaptive systems—'that have "emergent" properties, that is, self-organizing features arising in response to environmental, competitive pressures'—synchronicities can be seen 'as a form of emergence of the Self and have a central role in individuation or psychological maturation (taken as a homologue of biological evolution), providing a more scientific basis for this aspect of Jung's thought' (ibid.).

It is worthwhile to observe that in the course of their collaboration, Pauli and Jung slightly diverged with regard to the role that they assigned to therapy. As pointed out by Zabriskie in quoting Jaffé and von Franz (1995, p. 548):

> Pauli did not expect that the concepts of the unconscious would 'go on developing within the narrow frame of their therapeutic applications', but that their merging with the general current of science in investigating the phenomena of life is of paramount importance for them' (in Jaffé 1972, p. 43). According to von Franz, Pauli concluded 'Jungian psychology should be transformed into a philosophy' [...]
>
> (Sieg 1991, p. 56)

Von Franz went on to assert that 'psychology has to transcend the hitherto delineated limits of science, because it cannot exclude "meaning" and the feeling function from its way of describing its object' (von Franz 1992, p. 289). She pointed out the importance given by Jung to the vague language of myth in describing psychological facts, as if to say that in Jung's view psychology

cannot be reduced to a science. Of course, one would naturally expect that the psychotherapeutic aspects of synchronicity and of archetypes would be given greater consideration by Jung the psychologist than by Pauli the theoretical physicist, but in the course of their collaboration, both men had been led well beyond the boundaries of their respective professions. The apparent divergence of thought between the two men can be seen as minimal if one considers that for both men, the boundaries that had traditionally distinguished psychology from physics and science from philosophy were being dissolved as these isolated disciplines coalesced into a new conception of nature. As Lindorff has observed (1995b, p. 584), Jung 'appeared to be in agreement that the future of his ideas would not be found primarily in therapy but in a "unified holistic conception of nature and the status of man within it"'. Their vision of this unified holistic conception gives the collaboration of Jung and Pauli its revolutionary significance.

It is also worthwhile noting at this point that the struggle between Jung and Pauli to conceptually distinguish acausally ordered quantum phenomena from synchronistic phenomena 'in the narrow sense' has a modern-day counterpart in the attempt of Victor Mansfield, Sally Rhine-Feather and James Hall (1998) to conceptually distinguish synchronistic events, again 'in the narrow sense', from the more general class of parapsychological phenomena which have become the subject of controlled, repeatable experimentation. They have concluded that,

> [...] these meticulous laboratory studies of parapsychological phenomena with all their consistency and repeatability (their scientific causality) have more potential to revolutionize science and our entire worldview than the sporadic and unpredictable synchronicity phenomena. For all their numinosity, synchronicity experiences are, by their very nature, resistant to the kind of careful empirical investigation required for them to be integrated into our modern scientific understanding. While synchronicity speaks directly to the evolution of our subjective being, the exacting laboratory studies of the parapsychological speak more directly to our objective understanding of nature.

Although the effort of research based on controlled and repeatable parapsychological experiments certainly should be acknowledged, the claim that synchronistic phenomena are not amenable to integration into 'our modern scientific understanding' proceeds from an overly restrictive conception of what constitutes scientific knowledge. For example, few would deny a place in the domain of science for the study of the origin of the universe or of the past evolution of biological species, yet neither of these events themselves could ever be the subject of controlled, repeatable experimentation. Synchronistic phenomena are really no more scientifically 'fragile' than dreams, themselves, so from the above standpoint of Mansfield, Rhine-Feather, and Hall, the psychological analysis of dreams could never be integrated into 'our modern scientific understanding' either. The aspect of synchronistic phenomena that has far greater potential to revolutionize science than do parapsychological

phenomena in general is the role played by archetypes as ordering factors in both the psyche and the physical world. As has been shown above, this led Jung and Pauli to a view of the world as an *unus mundus*, a psycho-physical unity, that stands as a radically different conception from the *idealistic* 'mind-only' standpoint of Mansfield (1995), from which he has attempted to re-interpret synchronicity.

In this respect it is most interesting to see how Pauli uses the principle of synchronicity in order to try to explain the origin of life. As a matter of fact, in a letter addressed to Marcus Fierz (5 March 1957) who was one of only a very few physicists with whom he could discuss his interests in Jungian psychology, Pauli supposed that synchronistic phenomena might play a role in biological evolution (Laurikainen 1988, pp. 204–206). He reflected on the question 'where does life begin', particularly 'in the connection with the book on evolution written by the German zoologist Bernhard Rensch' (Laurikainen 1988, p. 204). Pauli 'found stimulating [...] some special views concerning the relationship of the physical to the psychical'. In fact, according to Rensch, ''the psychological parallel components" could not possibly have "suddenly sprung up" in the otherwise continuous ontogenesis', and he postulated that 'the so-called inanimate (non-organic) matter already must show "weak psychological parallel components"' (Laurikainen 1988, p. 204). Pauli thought that Rensch's conclusion was reasonable and suggested that 'these [components] (and consequently life) express themselves *principally* in *non-reproducible* phenomena'. Here the connection with synchronistic events becomes apparent:

> This is probably the same thing which C. G. Jung names 'inconstant connection through contingency' as well as the 'synchronicity phenomenon'. Let us be brief and call them the 'Σ phenomena'. They may give reason for consequences with 'significances' (in the sense of the statisticians), which are neither random series (since no probability exists), nor regularities (since a regularity is not reproducible). From the standpoint of a statistics which is based on the calculation of probabilities (or rather of its representatives) these 'spurious significances' mean 'nothing at all'. That is to say, as concerns the traditional scientist they go 'through the mesh of his net'. That is how I imagine the 'beginning of life', at which time the Σ phenomena could express themselves microscopically as 'chemical patterns'.
>
> (Laurikainen 1988, p. 205)

Then using a motif that originated in Marcus Fierz's correspondence, Pauli compared the overall course of the process of life with a Moebius strip,[8] specifying the possible role played by the Σ phenomena:

> I always imagine the Σ phenomena to be nothing more than a *transitional phase*, as something temporary. Then, somewhere, a *causal fixation* enters the picture, makes

[8] A Moebius strip is a geometrical object with only one surface and one edge. It can be visualized by taking a strip of paper and giving it a half-twist, and then merging the ends of the strip together to form a single strip. The Moebius strip is named after August Ferdinand Möbius, a nineteenth century German mathematician and astronomer, who was a pioneer in the field of topology.

> it *quasi* superfluous, and determines its further course. The way I imagine this fixation is that from the standpoint of the normal physical-chemical laws it must indeed always be 'possible' although, nevertheless, it would be more or less improbable from the standpoint of these laws. Then come occasionally Σ phenomena of a different type, etc. Seen from the standpoint of the whole, the Σ phenomena and the causal phenomena could thus be regarded as the two sides of a Moebius strip and just, as a unity, make up life.
>
> (Laurikainen 1988, p. 205)

These words represent one of Pauli's last reflections about synchronicity, because he died the following year, in 1958. From them it is clear that synchronicity takes its place beside causality in order to give an account of the beginning of life. Only the unity of both of these principles, like the two sides of a Moebius strip, can build up a complete philosophical worldview. The synchronistic principle seems to give an account of the actuality of single unique events at many levels, for example in the biological processes engendering the appearance of *new* determining conditions for the evolution of species (see also Cambray 2002, p. 418).

Also Jung touches on this subject in his letter to Erich Neumann (10 March 1959) when he says that there is 'no idea where the constructive factor in biological development is to be found', but

> it staggers the mind even to begin to imagine the accidents and hazards that, over millions of years, transformed a lemurlike tree-dweller into a man. In this chaos of chance, synchronistic phenomena were probably at work, operating both with and against the known laws of nature to produce, in archetypal moments, syntheses which appear to us miraculous. Causality and teleology fail us here, because synchronicity phenomena manifest themselves as pure chance.
>
> (Jung 1973, vol. II, pp. 494–5)

As for Pauli, even if he is very cautious when dealing with the synchronistic principle in order not to amplify its concept too much, there are clear indications that he conceived of it as the means for a possible completion of a worldview. As seen above, Pauli finds stimulating the 'hylo-psychical' hypothesis formulated by Rensch—Pauli mentions this hypothesis in connection with synchronicity also in his essay entitled 'Naturwissenschaftliche und erkenntnistheoretische Aspekte der Ideen vom Unbewußten' (Pauli 1961, pp. 113–28), according to which inorganic matter also would possess psychical components, even if these psychic elements are conceived as more primitive than those characterizing living beings. In a note to his essay about the epistemological aspects concerning the problem of the unconscious, Pauli asks himself if the synchronistic phenomena might be a manifestation of these primitive psychic components of inorganic matter (Pauli 1961, p. 125). Here once again one can clearly see Pauli's theoretical link with the mature stage of Jung's thought, with its vision of the unity of psyche and matter in one and the same world—the *unus mundus*. This is explicitly one of the reasons Jung decided to

publish the essay on synchronicity. He believed (7 March 1953) that 'the discussion of Matter must have a scientific basis', stating that with the work on synchronicity he 'attempted to open up a new path to the [animation] [*Beseeltheit*] of Matter by making the assumption that 'being is endowed with meaning' (i.e., extension of the archetype in the object)[9] '(Meier 1992, p. 100; 2001, p. 98; see also Jung's letter to Erich Neumann dated 10 March 1959, in Jung 1973, vol. II, pp. 493–6). Pauli very willingly gave his contribution in order to develop this idea, and that is how their philosophical worldview arose.

Conclusion: the synchronicity principle and its heuristic value

The synchronicity concept possesses a heuristic value from three different points of view. First, synchronicity plays a heuristic role within the discussions between Jung and Pauli, leading them to widen it conceptually and to elaborate the archetypal hypothesis. It thereby reveals its cosmological implications, because it tries to shed new light upon old philosophical issues such as the relation between matter and mind (the present-day mind-body problem), the speculation about the beginning of life, the enigmatic connection of science with philosophy and metaphysics, and the religious question about the meaning of man in the universe. As the result of their discussions of synchronicity, Pauli and Jung's investigation crosses the limits of single sciences such as physics and psychology, in order to take its place within the wider realm of the philosophy of nature. It cannot be ignored that Pauli and Jung's philosophical worldview originates as the result of the heuristic value assigned to synchronicity, because this principle acts as a guiding thread which leads both men in their conceptual reflections. Second, synchronicity may have a heuristic value in the scientific field too. Some scientists, as the physicist Charles R. Card, consider the archetypal hypothesis of Jung and Pauli that developed from their reflections on synchronicity to be a leading idea and an inspiring motive for their own research activity. Third, synchronicity plays a heuristic role with regard to the relationship between science and philosophy, too. As a matter of fact, Jung's double definition of the concept leads toward the formulation of issues belonging to the philosophy of nature. There is a tacit criticism of modern science which is usually conceived as separated from any philosophical background that is commonly thought to be misleading or useless for scientific aims. Today, science is considered as the only discipline which can successfully study nature, whereas philosophy is restricted to the mind, often in the form of the historical interpretation of old philosophical problems or at

[9] I preferred translating the German word 'Beseeltheit' into the English 'animation', instead of 'state of spiritualization' as reported in the published translation of Pauli and Jung's correspondence, since it is semantically closer to other terms such as 'animism', and the Latin 'anima' which in German is translated into 'Die Seele' and in English into 'soul'.

best to concentrate on science and its research methods, thus dealing mainly with epistemological and logical issues. Certainly this has been due to the predominant metaphysical dualism separating psyche and matter whereby they are regarded as two different objects, thus creating two different and separated fields of study. But where has the old philosophy of nature gone? Jung and Pauli's discussions on synchronicity shed light on the special need for a philosophy of nature today, emerging from a theoretical revision of the relation between mind and matter. As a further consequence of the worldview arising from the discussions of synchronicity, philosophy would be no longer a mere, almost useless, appendage of science, but it would discover its role of active collaborator again, directly helping scientists to approach the study of nature and the construction of a philosophical and scientific worldview.[10]

As envisioned by Pauli and Jung, the synchronicity principle, with its manifold symbolic value, provides greater unity and completeness to a philosophical worldview in which science becomes reconciled with its archetypal origins and with the ancient holistic knowledge of nature symbolized by synchronicity. This does not involve a radical confusion between science and pseudoscientific superstition that was the neo-positivists' bugbear in the twentieth century but means, in fact, an ideal reconciliation of science with an historical and philosophical dimension which does not exclude heterogeneous elements only for fear of sliding into an obscurantist irrationalism. According to Jung and Pauli's view, we have to grant privilege to a unitary worldview in which both science and philosophy (including metaphysics) together should help to create a fertile ground for the emergence of scientific theories.

Translations of Abstract

Jung a rencontré le physicien quantique Wolfgang Pauli au moment où il explorait le phénomène de la synchronicité, et a démarré une collaboration avec celui-ci. Cette collaboration a considérablement changé l'approche de Jung du phénomène de synchronicité. Avant elle, Jung mettait l'accent principalement sur les traits phénoménologiques et empiriques du phénomène de synchronicité. A la suite de son travail avec Pauli, il se concentra plus sur le caractère ontologique et archétypal de ces traits. Pauli, de son coté, devint de plus en plus sensible aux aspects philosophiques liés à l'inconscient. Les réflexions communes de Pauli et de Jung dépassèrent largement la psychologie et la

[10] For a very interesting view about a contemporary philosophy of nature and its relation to Pauli and Jung's archetypal hypothesis, see Card 2001, pp. 259–94. For the tacit philosophical implications contained in any of today's scientific *weltbild*, see Van Melsen 1961. For the distinction between the philosophy of science and the philosophy of nature, and for the disappearance of the latter owing to the metaphysical dualism between matter considered as substance (which became the realm of science) and spiritual mind (studied by psychology and philosophy), see I. Leclerc 1986. For a revaluation of metaphysics in philosophy of science, see the idea of 'influential metaphysics' in John Watkins, 1975, pp. 91–121.

physique, ce qui les amena dans la zone où ces deux champs se rencontrent à l'intérieur de la philosophie de la nature. En fait, le résultat de leur collaboration fut que le concept de la synchronicité, d'une approche empirique est devenu un principe fondamental d'exploration-interprétation, qui, allié au point de vue causal, peut donner une vision plus complète du fonctionnement du monde. L'exploration du caractère problématique du concept de synchronicité a une valeur heuristique dans la mesure où elle amène à reconsidérer les enjeux philosophiques qui ont conduit Jung et Pauli à changer les arrières plans conceptuels soutenant leur pensée. Il y a dans la vision philosophique du monde qui découle des discussions de Pauli et Jung sur la synchronicité de nombreux points qui vont à l'encontre du courant scientifique dominant et qui sont porteurs d'une sorte de critique de certains des points de vue généralement tenus dans la science de nos jours.

Während er die Phänomene der Synchronizität erforschte, lernte Carl Gustav Jung den Quantenphysiker Wolfgang Pauli kennen, und begann schließlich mit ihm zusammenzuarbeiten. Während dieser Zusammenarbeit änderte sich Jungs Forschung an den synchronistischen Phänomenen in bemerkenswerter Weise. Jung hatte bis dahin hauptsächlich die phänomenologischen und empirischen Eigenschaften der synchronistischen Phänomene betont, während der Zusammenarbeit mit Pauli konzentrierte er seine Aufmerksamkeit auf ihren ontologischen und archetypischen Charakter. Pauli dagegen öffnete sich zunehmend den philosophischen Aspekten in bezug auf das Unbewusste. Jungs und Paulis gemeinsame Reflexionen gingen weit über die Psychologie und Physik hinaus, und drangen in das Reich ein, in dem sich die beiden Bereiche in der Naturphilosophie treffen. Tatsächlich wurde die Synchronizität als Folge ihrer Zusammenarbeit von einem empirischen Konzept in ein grundlegendes erklärend-interpretierendes Prinzip transformiert, das möglicherweise zusammen mit der Kausalität zu einer umfassenderen Weltsicht führen könnte. Die Untersuchung des problematischen Charakters des Synchronizität—Konzeptes hat einen heuristischen Wert, weil es zum Überdenken der philosophischen Fragen führt, die Jung und Pauli zur Klärung des konzeptuellen Hintergrundes ihrer Gedanken brachte. Innerhalb der philosophischen Weltanschauung, die von Jungs und Paulis Diskussionen über Synchronizität ausgeht, gibt es viele Aspekte, die gegen den populären Hauptstrom der Wissenschaft gerichtet sind und die einen kritischen Blick auf einige der üblichen Ansichten der gegenwärtigen Wissenschaft ermöglichen.

Durante la sua indagine sui fenomeni sincronistici, Carl Gustav Jung conobbe e iniziò una collaborazione con il fisico quantistico Wolfgang Pauli. Nel corso di tale collaborazione lo studio dei fenomeni sincronistici da parte di Jung attraversò un notevole cambiamento; in origine Jung aveva posto l'accento principalmente sulle caratteristiche fenomenologiche ed empiriche degli eventi sincronistici, salvo poi, insieme a Pauli, spostare la sua attenzione sul loro aspetto ontologico e archetipico. Pauli stesso divenne sempre più sensibile agli aspetti filosofici riguardanti l'inconscio. Le riflessioni congiunte di Jung e Pauli hanno oltrepassato i confini della psicologia e della fisica per approdare alla regione in cui le due aree si incontrano nella filosofia della natura. Infatti, in seguito alla loro collaborazione, la sincronicità si è trasformata da concetto empirico in un principio essenzialmente interpretativo- esplicativo che, insieme alla causalità, potrebbe condurre a una visione del mondo più completa. L'indagare il

carattere problematico dell'idea di sincronicità possiede quindi un valore euristico perché induce a prendere in considerazione le istanze filosofiche che hanno spinto Jung e Pauli a chiarire il retroterra concettuale delle loro riflessioni. Nell'ambito della visione filosofica del mondo che emerge dalle discussioni di Jung e Pauli sulla sincronicità si annoverano molti aspetti simbolici che vanno controcorrente rispetto alla mentalità scientifica odierna e che rappresentano una sorta di critica di alcune delle idee più comuni della scienza moderna.

Mientras exploraba los fenómenos de la sincronicidad, Carlos Gustavo Jung se relacionó con el físico quántico Wolfgang Pauli y eventualmente comenzó a colaborar con él. Durante esta colaboración los estudios de Jung sobre la sincronicidad sufrieron un cambio considerable; previa a esta cooperación había estudiado las características fenomenológicas y empíricas de los fenómenos de la sincronicidad, mientras que en la asociación con Pauli, focalizó su atención en el carácter ontológico, arquetipal de los mismos. Pauli, por otra parte, se hizo especialmente sensible a los aspectos filosóficos concernientes al inconsciente. Las reflexiones compartidas por Jung y Paulifuron mucho mas allá de la psicología y la física, penetrando en el espacio donde las dos áreas se encuentran en la filosofía de la naturaleza. De hecho, como una consecuencia de su colaboración, la sincronicidad fue transformada de un concepto empírico en un principio fundamental explicativo e interpretativo, el cual conjuntamente con el de la causalidad podría orientarnos en una visión mas completa del universo. Explorar el carácter problemático de la sincronicidad tiene un valor heurístico por cuanto conduce a la reconsideración de los hechos filosóficos que llevaron a Jung y a Pauli a clarificar la base de sus pensamientos. Dentro la visión filosófica universal que emerge de las discusiones de Jung y Pauli sobre la sincronicidad, surgen muchos aspectos que chocan contra la ciencia convencional y ello representa una cierta forma de crítica a algunos de los puntos de vista de la ciencia actual.

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