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## Synchronicity and Emergence

### Introduction

Scientific reconsideration of C. G. Jung's difficult, fascinating, and peculiar idea of synchronicity, which he believed to represent an acausal connecting principle, has become possible with the advent of recent developments in understanding the self-organizing features of complex adaptive systems (CAS). In particular, the question of acausality in "meaningful" coincidences, especially those observed in the clinical setting, can be reassessed in terms of the concept of emergence, which explores holistic phenomena supervening from interactions among component agents.

That the present moment is a timely one for reexamining synchronicity is borne out by the response of Elizabeth Lloyd Mayer to a questionnaire published in the January 2002 issue of the *Journal of Analytical Psychology* (*JAP*). The questionnaire is part of an ongoing dialogue between psychoanalysts and analytical psychologists that *JAP* has fostered for the past six years. Designed for comparative purposes, this questionnaire bears some resemblance to one published in *Psychoanalytic Dialogues* (Fosshage and Davies 2000), which consisted of responses by analytical psychologists, though the subject of synchronicity was not addressed there. For the *JAP* special issue, arrangements were made with eight psychoanalysts, representing a spectrum of orientations, who agreed to prepare answers for publication. Mayer, a training analyst in San Francisco, was the only respondent to express an interest in, as well as knowledge of, Jung's writings on synchronicity.

In her article, Mayer (2002) suggests that Freudian and Jungian views of reality are well-poised at this juncture to enter into "a wider scientific and cultural conversation . . . where

some of the most lively and critically important questions about people and their relationship with the world are currently being asked” (92). In her view, this dialogue centers on the way that an extensive range of phenomena—both physical and psychological—are being reconceptualized as “separate and separable versus connected and inseparable.” She goes on to suggest that “Freudians have developed a view of the mind which . . . elaborates implications of its separateness and its unequivocally bounded character,” whereas Jungians have “elaborated implications of the mind’s connectedness: the nature of its quintessentially *un*bounded character.”

In articulating what she believes to be the core elements of these distinctive approaches to the mind, Mayer singles out the understanding of the transference, which, “perhaps more than anything else, dramatically manifests the individual bounded mind in action,” as the clinical tool par excellence of psychoanalysis. In contrast, she locates the genius of the Jungian school in its attention to “the collective mind and what we might call the profoundly *connected* mind” (92).

An interest in the limits of connectedness leads Mayer to the notion of synchronicity, which she aligns with the contemporary turn in many disciplines to revalue the subjective, relational, and intersubjective aspects of reality. As she notes, “the concept of synchronicity emerges from a model of the mind characterized by a radical connectedness between minds and also between minds and matter, placing the human mind in a field characterized by interactive possibilities that simply occupy no conceptual place in Freud’s psychology of the individual” (93).

Although Mayer in other papers has written on seemingly anomalous mental effects in clinical encounters (1996a; 2001) and changing scientific paradigms informing psychoanalysis (1996b; 2000), she has not explicitly reassessed synchronicity in light of these concerns. Her focus has been on models of interaction in science, philosophy, and medicine that argue for the mind’s role in shaping reality. On the other hand, most efforts by Jungians to consider synchronicity from a scientific perspective have been closely tied to Jung’s own examinations of the interface between twentieth-century physics and his psychological theories.<sup>1</sup> In short, despite occasional remarks

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suggesting links between synchronicity and chaos theory (e.g., Main 1997, 26), no one from either the Freudian or the Jungian side has systematically pursued this line of inquiry. Even more productive considerations can be derived from a reconsideration of the intersubjective aspects of the synchronicity hypothesis in light of the present understanding of CAS. Application of the findings from these converging areas of research, I believe, offers a new framework for comprehending meaningful coincidences associated with the analytic encounter.

### Coincidence

Although the subject of meaningful coincidence was of abiding interest to Jung throughout his career, his first formal use of the term “synchronicity” did not come until December 4, 1929, in a seminar on dreams; his first public mention of the term followed a few months later at his memorial address for Richard Wilhelm on May 10, 1930 (1930, par. 56). But it was only with considerable trepidation, following his heart attack, that Jung proceeded at Wolfgang Pauli’s urging to publish the details of his ideas on synchronicity in 1951 and 1952.

In putting forth a new principle, at least for Western science, of acausal connectedness, stemming from years of recording observations of what he regarded as meaningful coincidences, Jung was at pains to set forth the limits of the understanding of “chance” and “coincidence” within the framework of the science of his day. His justification for introducing synchronicity was the failure of any strictly Cartesian description of events (which assumes a mind-body dualism) to account for phenomena outside a straightforward cause-and-effect paradigm. At the core of his argument, Jung employed a hypothesis concerning energy:

It is impossible, with our present resources, to explain ESP, or the fact of meaningful coincidence, as a phenomenon of energy. This makes an end of the causal explanation as well, for “effect” cannot be understood as anything except a phenomenon of energy. Therefore it

cannot be a question of cause and effect, but of a falling together in time, a kind of simultaneity. Because of this quality of simultaneity, I have picked on the term “synchronicity” to designate a hypothetical fact equal in rank to causality as a principle of explanation. . . . I consider synchronicity as a psychically conditioned relativity of space and time. (1952, par. 840)

Jung’s argument is based on the laws of thermodynamics articulated in the nineteenth century as they applied to closed or complete systems. Scientific descriptions of energetics in open systems far from equilibrium were not available in Jung’s day. As Schneider and Kay point out: “The common statements of the first and second law [of thermodynamics] are that energy is conserved and entropy increases respectively. Unfortunately, entropy is strictly defined only for equilibrium situations. Thus, these statements are not sufficient for discussing non-equilibrium situations, the realm of all self-organizing systems including life” (1994, 631).

Before exploring this idea further, however, let us first look at modern views of “chance” events that are not considered psychologically meaningful. Generally the occurrence of these events has been modeled using statistical techniques and probability theory. One of the most important applications of such modeling has been in the study of biological evolution through natural selection based on the theory of genetic mutations. Random occurrences, such as radiation or chemically induced changes in components of DNA, have been taken as leading in rare cases to adaptive advantage. This gives creatures with traits stemming from such changes a competitive edge for survival. Therefore the offspring of individuals with such traits, if inherited, will tend to flourish in a stable environment over others lacking these traits. Minor variations gradually accumulate, creating the complicated order and organs we see in the diverse organisms of our world. This view of biological evolution is again Cartesian, in that the psyche has no role. In effect, *coincidence drives evolution*, but coincidence is itself explained solely through probability theory and treated as accidental.

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Extending this perspective by applying statistical analysis to the study of coincidences in the human realm, the mathematicians Persi Diaconis and Frederick Mosteller (1989) sought to evaluate Jung's model of synchronicity. They concluded:

Once we set aside coincidences having apparent causes, four principles account for large numbers of remaining coincidences: hidden cause; psychology, including memory and perception; multiplicity of endpoints, including the counting of "close" or nearly alike events as if they were identical; and the law of truly large numbers, which says that when enormous numbers of events and people and their interactions cumulate over time, almost any outrageous event is bound to occur. These sources account for much of the force of synchronicity. (1989, 853)

Despite their critique of synchronicity, however, Diaconis and Mosteller leave a door ajar at the very end of their article: "Where we have solid control and knowledge, the rates of occurrences seem about as expected, . . . but our inexperience with and lack of empirical information about the kinds of problems coincidences present do make for many surprises" (860).

Pauli, in his interactions with Jung, views matters from quite a different perspective when he comments in a letter of November 24, 1950: "Whenever an application of statistical methods, without consideration of the psychic state of the people involved in the experiment, does *not* show such a 'pernicious influence' [of the methods themselves on the determination of synchronicity], then there is something very different from synchronicity going on" (Meier 2001, 54).<sup>2</sup> Pauli, however, does not maintain that quantum mechanics provides wholly acceptable metaphors for synchronicity; later in the same letter, he remarks: "although microphysics allows for an acausal form of observation it actually has no use for the concept of 'meaning.' So I have grave misgiving about placing physical discontinuities and synchronicity on the same level, which is what you do" (56).<sup>3</sup> Pauli then somewhat softens his qualification of Jung's views in a footnote:

I do, however, feel that although it cannot be proved, it can be argued that acausality in microphysics is a sort of “preliminary stage” for your concept of “synchronicity.” The term “state” or “physical situation” in quantum physics would then be a preliminary stage for your more general term “meaningful connection.” (56n5)

However, Pauli’s use of quantum mechanics as a source of metaphors for psychological experience is problematic, especially as quantum phenomena primarily operate at the micro level. Some philosophers, such as Kirk Ludwig (1995), have argued that quantum mechanics does not offer greater insights into the mind/body dilemma than does classical mechanics. If one moves outside the realm of microphysics (where Jung in part derived his concerns about energy), are there now other ways of looking scientifically at seeming coincidences occurring at the scale of normal perceptions besides the statistical, probabilistic approach?

### **Emergence**

Since the 1970s a new paradigm cutting across scientific disciplines has been gaining attention; it focuses on the ways in which the order and organization of various systems spanning micro- and macro-worlds—chemical reactions, the weather, ecosystems, socio-political events, economics trends, and so on—can arise spontaneously out of chaotic conditions through processes of self-organization. Much of this new way of thinking began with the work of the 1977 Nobel laureate in chemistry, Ilya Prigogine, on the nonequilibrium thermodynamics of dissipative structures (those that dissipate energy and mass to sustain themselves). Prigogine pointed out that these studies approximate many phenomena that are a part of our daily lives, lived far from the stasis of equilibrium. This field of study has come to be called “complexity,” and it explores the ways in which order can emerge at the edge of chaos. Studies in the related area of chaos theory, which examines the dynamics of systems whose trajectories through state space (a system of independent variables each of which

may change with every alteration of any variable) are highly sensitive to initial conditions, were popularized by James Gleick in *Chaos* (1987). The Santa Fe Institute, an impressively creative “think tank” of scientists from many disciplines, was set up to explore and employ the concepts involved in complexity and chaos theories.

A particularly interesting subset of the studies derived from the work of the Santa Fe group is that of “complex adaptive systems” or CAS. These are systems that have what is termed “emergent” properties, that is, self-organizing features arising in response to environmental, competitive pressures. The quality of complexity in CAS is driven by these external forces in conjunction with the interactions between units, but is not inherent in the individual units themselves. CAS form gestalts in which the whole is truly greater than the sum of the parts. In the words of Steven Johnson, “In these systems, agents residing on one scale start producing behavior that lies one scale above them. . . . The movement from low-level rules to higher-level sophistication is what we call emergence” (2001, 18). This complexity can extend into multiple layers, as in a series of nested emergent phenomena, the evolving network of neighborhoods in cities being one example. In general, systems are not considered emergent until “local interactions result in some kind of discernible macrobehavior” (19). His examples include ants creating colonies, the evolution of such colonies over time in competition with other colonies of varying ages, and individual slime mold cells aggregating into a swarm during times when forest floor is replete with decaying organic matter, i.e., excess food, then reverting to single-cell life during times of less bounty, all of which is done collectively without a “leader.” Another striking example of organization from below upwards among insects was reported in *Scientific American* by Diane Martindale:

The tiny blister beetle larvae in the Mojave Desert are taking bees for a ride. Hundreds of the parasitic *Meloe franciscanus* beetles clump together to mimic the shape and color of a female bee. When an amorous male bee attempts to mate, the beetles grab his chest hair and are carried off. When the duped male mates with a real

female bee, the beetles transfer to her back and ride off to the nest, where they help themselves to pollen. The cooperative behavior of the beetle larvae . . . is virtually unknown in the insect world except among social species such as bees and ants. The report also notes that beetle larvae clumps must also smell like female bees, because the male bee is not fooled by painted models. (2000, 26)

As indicated, emergent phenomena are also evident in human affairs. More generally, the life of cities often manifests a pattern of “emergent intelligence,” as Johnson notes:

The body learns without consciousness, and so do cities, because learning is not just about being *aware* of information; it’s also about storing information and knowing where to find it. It’s about being able to recognize and respond to changing patterns. . . . Information management—subduing the complexity of a large-scale human settlement—is the *latent* purpose of a city, because when cities come into being, their inhabitants are driven by other motives, such as safety or trade. No one founds a city with the explicit intent of storing information more efficiently, or making its social organization more palatable for the limited bandwidth of the human mind. (2001, 103, 109)

The self-organization manifested in all these systems appears transcendent from the perspective of what is known about the behavior and consciousness of individual creatures. However, a glimpse of the *telos* of such a collective organization may be gleaned via awareness of emergent phenomena in a mind attuned to intuiting larger gestalts.

Recently, complexity theory has found applications in Jungian circles. David Tresan cogently introduced emergentist thinking in “Jungian Metapsychology and Neurobiological Theory” (1996), where he noted in passing the history of this tradition in science and philosophy. The absence of a historical perspective in many contemporary scientific accounts of emergence is especially regrettable as the British emergentists

of the 1920s through 1940s (Arthur Lovejoy, C. D. Broad, C. Lloyd Morgan, and Samuel Alexander, among others) may have had some impact on analytic theorizing. Peter Saunders and Patricia Skar, extrapolating from scientific models of self-organizing systems, concluded that “the archetype is an emergent property of the activity of the brain/mind” (2001, 305). In a paper on the Baldwin Effect—an assessment of the cumulative costs and benefits of lifetime learning by individuals in an evolving population—George Hogenson has shown how Jung’s sources of biological understanding, predominantly the neo-Darwinians, sought to link (cultural) learning to evolutionary developments.<sup>4</sup> This line of thinking leads Hogenson to concur that “the archetypes are the emergent properties of the dynamic developmental system of brain, environment, and narrative” (2001, 607). I would extend this argument to Jung’s vision of a transpersonal Self, as a collective patterning operating at multiple tiers of order-engendering human groups (from the dyadic, through the sociological, with some universal or archetypal features), a notion that presciently articulated the CAS model now being scientifically constructed.

As open systems capable of dissipating energy from the environment, CAS are not constrained by the thermodynamic laws to which Jung adhered in his original framing of synchronicity. Therefore, a reconsideration of the definition of causality to be used when evaluating such experiences is now warranted. In the contemporary view, emergent phenomena, especially in the human realm, can appear to ordinary, individual consciousness as meaningful, if inexplicable, coincidences. Aspects of the assembled higher-order or superordinate structures appear in the mind as images, such as those Jung identified as being symbols of the Self. When these symbols are accessed by consciousness and experienced affectively, they often coincide with a sense of deeper purpose or function, though their fullness can barely be intuited, if perceived at all. This suggests that synchronicities can be explored 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.

To return briefly to the biological realm, self-organizing systems are currently postulated to have a role in the origins and evolution of life. Stuart Kaufman, a member of the Santa Fe Institute, has published several books (hailed by eminent biologists such as the late Steven Jay Gould) that offer detailed arguments and simulations demonstrating CAS to be a factor of equal significance to natural selection in evolution. Kaufman writes: "Without a framework to embrace both self-organization and selection, self-organization has been rendered almost invisible, like the background in a gestalt picture. . . . [However, n]either alone suffices. Life and its evolution have always depended on the mutual embrace of spontaneous order and [natural] selection's crafting of that order" (1995, 8–9). He continues: "Networks that maintain a delicate compromise between order and surprise appear best able not only to coordinate complex activities but also to evolve. It is a very attractive hypothesis that natural selection achieves genetic regulatory networks that lie near the edge of chaos" (26).

If, as appears to be the case, Kaufman's framework provides a more complete understanding of somatic evolution than strictly Darwinian natural selection, we can anticipate that it will likewise have correlates in the evolution of the psyche; for as Jung noted in "On the Nature of the Psyche": "In view of the structure of the body, it would be astonishing if the psyche were the only biological phenomenon not to show clear traces of its evolutionary history, and it is altogether probable that these marks are closely connected with the instinctual base" (1947/1954, par. 398).<sup>5</sup> Even more explicitly, Jung notes with reference to mammalian evolution in a letter to Erich Neumann of March 10, 1959:

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. . . . This presupposes not only an all-pervading, latent meaning which can be recognized by consciousness, but during that preconscious time, a psychoid process with which a physical event meaningfully coincides. Here the meaning cannot be recognized because there is as yet no consciousness. (1975, 494–95)

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Drawing on Jung's intuitions, I believe we can extrapolate from somatic evolution occurring at the edge of physical chaos to psychological evolution originating at the interface of psychic order and chaos. It follows that what a traditional Darwinian view sees as random events—meaningless aggregates of chance—is replaced by a nonreductive yet deterministic reading employing chaos theory. By implication, meaningful coincidences are psychological analogues that spur the evolution of both the personal and the collective psyche, organizing images and experiences into previously unimagined forms.

### Clinical Views

The core of analytic work, I would argue, involves opening oneself to and experiencing emergent properties of the psyche, i.e., coming into contact with levels of psychological organization that transcend ego psychology and can be detected through meaningful coincidences. In effect, all discovery of unconscious mental life stems from observing and ascribing meanings to “coincidences” between patterns in conscious life and unconscious dynamics. The manifestations of emergence that are potentially transformative from a Jungian perspective involve a constellated archetypal field. The optimal mental state for analytic work using a CAS model would be for the personalities involved to be poised (as good analytic technique seeks to be) on the interface of order and chaos, or if necessary to move the intersubjective dyad toward this region. Stanley Palombo's recent book, *The Emergent Ego* (1999), provides a valuable analytic model based on this perspective but is, for me, incomplete as it lacks any discussion of a superordinate (or emergent) dimension to the self.

To date, most reports of synchronistic occurrences associated with the clinical encounter in the literature of analytical psychology have tended to fall into two broad categories.<sup>6</sup> In the first, the emphasis is on how these occurrences furnish evidence of archetypal processes at work and reveal the relation of the patient's conscious personality to specific archetypal contents. Jung's well-known example of the scarab beetle

is paradigmatic of this focus.<sup>7</sup> There Jung postulated that the archetype of rebirth was being resisted by the patient's fear of the irrational until the synchronistic event "punctured the desired hole in her rationalism . . . [and] treatment could now be continued with satisfactory results" (1952, par. 982). In the second group of reports, attention has been directed to intersubjective aspects, with the synchronistic occurrence being read as a commentary on the state of the transference/countertransference relationship, a dimension missing from Jung's report. This approach has tended to come from members of the Society of Analytical Psychology in London, who have followed the lead of Michael Fordham's remark that "synchronicity depends upon a relatively unconscious state of mind, i.e., an *abaissement du niveau mental*" (1957, 48).<sup>8</sup>

The examples of the first group, focusing on the patient's relationship to deep unconscious material, are taken as support for the archetypal hypothesis. This view, however, risks overvaluing these collective aspects of the self and seeing them as the sole motivating agent for change. Applying this approach clinically may lead to stasis, if experiences of the self become reified and are deemed to be the sole goal of treatment. Described in terms of energetics, this would be a return to a closed-system equilibrium state. The net effect of such an attitude is likely to be a decrease in emergent experience as it lacks the fluidity that comes with being at the edge of engagement with unconscious processes. When this stance holds sway, synchronistic events are reduced to being the vehicles for dismantling impasses and breaking through resistances so that the "real" business of analysis can proceed. Such an approach does not reflect dynamically on the meaningfulness of the experience in the specific context in which it is embedded. Thus, Fordham criticized Jung's handling of the scarab incident for his ignoring the transference (and, I would add, countertransference) implications of the event.

On the other hand, the attitude of the second group, oriented to interaction, attempts to avoid the grandiosity frequently associated with such experiences, but leans toward giving them a pathological reading. Synchronistic events are viewed as indications of unresolved complexes in the patient and, at times, the analyst. The implicit goal of practitioners in

this group is to analyze the material until the occurrences in question come to a halt, which is taken to mark at least a partial resolution of the interfering complex. But though this technique has clinical merit, I believe that it entails a subtle distortion of synchronicity theory.

Robert Aziz points out that in synchronistic phenomena the events partake “of mutual complementarity rather than . . . mutual identity” (1990, 188). Noting that synchronicity as described by Jung is to be understood symbolically rather than concretely, Aziz argues that it is abnormal for the individuals involved not to sort out what “belongs” to each in the compensatory sense. He identifies three types of pathological reactions to synchronistic events: first, “*participation mystique* with the object,” that is, “for the subject not to differentiate the specific compensatory import that the object has for him from what the object is in itself; second, the failure to interpret correctly the compensatory meaning of the synchronistic event . . . and third, wrongly seeing the synchronistic event as a manifestation of one’s or another individual’s personal power” (191). He correlates the typical misreadings of these events with defenses stemming from primitive identification of the subject with the object as well as from narcissistic grandiosity.

The approach outlined by Aziz is, I believe, in keeping with Jung’s view that synchronistic experiences in and of themselves are “normal,” but difficulties arise from how they are interpreted. Jung argued for the nonpathological quality of these experiences when he responded on January 14, 1958, to L. Kling, M.D., an analytical psychologist from Strasbourg who had questioned him about ideas of reference and synchronicity in the treatment of schizophrenics: “the synchronistic effect should be understood not as a psychotic but as a normal phenomenon” (Jung 1975, 409). In the model I am proposing, this would mean that the ability accurately to detect and intuit the psyche’s emergent processes through meaningful coincidences can be compromised by whatever pathological structures and dynamics are operative in and around such events. This is, of course, in keeping with the requirement that the analyst be able to employ self-analytic reflections as needed. What is perhaps new here is the opportunity to consider more systematically the use of meaningful coincidences as a guide to such reflection.

As has been frequently noted in the analytic literature, the more dramatic forms of synchronicity often occur in the treatment of psychotic and borderline patients. This is thought to follow from their possession of a strongly constellated archetypal field that is not well mediated, due to chronic emotional distress and inadequate ego resources. I would add that synchronicities also tend to come into play in highly traumatized states, which matches Jung's view that such events supervene when serious risk or danger is perceived. A parallel in the CAS framework would be the recognition that the psychological states of highly disturbed patients are located far from the optimal edge of chaos; their dysfunctions range from being immersed in confusion, as in hysterical psychoses or mania, to being frozen in catatonic stupors, psychotic depressions, and dissociative phenomena. Synchronicities, although frequent in such extreme conditions, can be radically disruptive while patients' understanding of them is vulnerable to massive distortions. Homeostatic forces are mobilized in an attempt to sustain previously equilibrated states, however dysphoric. Thus, such patients' framing of their experiences, whether or not they are conscious of the occurrence of a synchronicity, provides valuable information about their relations to emergent phenomena.<sup>9</sup>

Let me illustrate with a clinical example. A severely traumatized woman in analysis with me multiple times per week required prophylactic hospitalization during the first year around breaks in treatment of a week or more. After considerable analytic work, the patient asked to remain out of the hospital during a ten-day hiatus, with her psychopharmacologist available as a back-up and one scheduled phone call from me. The call was arranged before I left town, and we spoke at the designated hour. At first, the patient was quite agitated, quickly recounting her dream from the night before: I (the analyst) was in the Black Forest and lost to her. She was terrified and asked if I were in Germany. Because I was aware that her inability to retain the analytic experience in memory exposed her to severe abandonment trauma, I responded concretely, perhaps naively, reassuring her that I was not in Germany (I did not disclose my location, in the Caribbean), but that I could see she felt in danger of losing contact with

me. We discussed her concerns; she acknowledged the fragmentation occurring, while I focused on helping her reestablish her links with me, and through me to reality, as she seemed in danger of becoming lost in a childish but terrifying Brothers Grimm-like world of archetypal witches and monsters. The contact was sufficiently containing that my patient's stability was sustained, and she remained at home, out of the hospital, until I returned.

The day after the phone call, I went for a second lesson in scuba-diving. After a morning of work in the pool, the diving instructor decided on the spot that I should come along on the afternoon dive, my first in open water. It was therefore with some trepidation that I joined the other seasoned divers as we headed out to sea. It was only as we neared the site that the instructor told us about the dive. I was thoroughly shocked to discover that the site chosen was called the "Black Forest." After the momentary disruption caused by recognition of the precognitive aspect of my patient's dream, I found myself aware of the asymmetry in our respective attitudes about the "Black Forest." The realm I was about to enter, though unknown and containing some real risks, was a potential source of enjoyment. Indeed, the name of the site refers to the black coral that grow on the reef at that spot, and the trip underwater was exquisite to say the least, and not marred by external incident.

The terribly traumatic history of my patient had left her immersed in a hysterical psychosis whenever a loss of containment loomed, here linked to my going on vacation. She was absorbed in a world of psychic chaos. However, in providing the patient with a measure of containment, offering her a sense of ordered understanding, I in turn was left more open to the dissolving effects of the chaotic elements in the interpersonal field represented by the contents of her dream. Although I chose not to disclose to the patient what had occurred to me while on vacation, my attention to the communicative power of her unconscious processes was certainly heightened. The synchronicity of the dream and the dive-site appears to have had an opposite effect on each of us, causing both of us, and the analysis itself, to move closer towards the edge of chaos and order.

Psychosomatic symptoms form another cluster of clinical observations in which the involvement of synchronicity has been debated by Jungians. C. T. Frey-Wehrlin (1976) and Marie Louise von Franz (1992, 249–51) have argued for a causal view of the psyche-soma relationship, whereas C. A. Meier has defended the thesis that there is an acausal connection between them. He says:

It is proposed to approach the entire problem of psychosomatic phenomena as an acausal relationship, in accordance with the views held by the physicians of ancient Greece, expressed in the word *symptoma* [Greek synonym of Latin *coincidentia*], the acausal but meaningful coincidence of at least two distinct magnitudes. This concept is identical with that expressed in the modern term *synchronicity*; it presupposes a *tertium*, higher than soma or psyche, and is responsible for symptom formation in both—approximating to the theory of the *subtle body*. . . . It appears that healing can take place only through the constellation of a *tertium* of a higher order—a symbol or the archetype of totality—but as a synchronistic event and not as a cause-effect chain. (1986, 188)

However, if the *tertium* is understood as an emergent phenomenon, then we now have a way of appreciating these symptoms that allows for an exploration of the “coincidental” nature of their occurrence in terms of a self-organizing system without having to resort to strictly reductive causality.

A second clinical example: a rather obsessional young man had been in weekly treatment with me for about a year when we had the following two sessions. In the first, we met at the last hour of a rather long day, not his usual time; he had requested this rescheduling several weeks earlier. The session was laborious for me. While I was familiar with the constricted states that often accompanied his difficulties in expressing himself, especially if feelings were involved, I felt unusually exhausted as the session wore on. In the last minutes of the hour, the patient surprisingly produced a dream that contained the image of child in a closet. There was no time for

associations or exploration of the imagery. After he left, I was so depleted that I needed to lie down and rest before driving home; I felt on the verge of flu. However, I felt fine the next day. The following week we met at our usual daytime hour. And while the affect field was not much different from the week before, we were able to return to the dream; the patient had not seemed to have noticed my state of fatigue in the previous session. In exploring the images of the dream, however, we did uncover a bit of his history previously unknown to me. By asking the age of the child in the closet, and then eliciting associations to that time in his life, I found that he had had a specific food allergy, the symptoms of which were remarkably similar to what I had experienced after the session the week before. During the next phase of the analysis, this dream figure came to be understood by us as representing a time in his life when much of his natural spontaneity had receded. Beginning to get the frightened, frozen playfulness “out of the closet” was the starting point for some lengthy, and at times torturous, work on obsessional defenses that operated at a somatic level.

This case was symmetrically inverted from the previous one. Here the patient was stranded, locked into a rigid order that constricted body and psyche. In a wounded-healer model, I, as analyst, somewhat unwittingly absorbed a portion of his unconscious defenses, I was made ill, but remained able to metabolize enough of the complex in the intersubjective field through the aid of the dream to regain a measure of order in my own mind, recognizing the meaningful coincidence between my symptoms and his history so that a slow dissolution of the defenses could begin.

Given the postulate of an archetypal core, however deeply buried, within all psychological phenomena, synchronicity may be a ubiquitous feature of clinical work. Under “normal” conditions, those of the world of mundane consciousness, synchronistic occurrences are of low intensity and undramatic in appearance, perhaps near to vanishing, depending on the degree of constellation of the archetypal field and the quantity of affective tension involved. How might we consider these more mundane coincidences in analytic work? In the last several decades, there have been developments in psychoana-

lytic thinking, on which Jungian formulations might shed alternative light, that I believe offer new pathways for examining such coincidences. In particular, I am referring to enactments and the use of reverie in the analytic process. Similarly, the study of what is loosely termed “parallel process” in supervision is based on observing coincidences between dynamic features of a therapy and the supervision of that therapy. In addition to whatever subtle causal (unconscious) communication may be involved in these convergences, a CAS model would suggest that they may also be indicators of emergent processes that, from the perspective of ordinary consciousness, have a synchronistic quality to them.

While infantile or regressive features are relevant to these analytic explorations, we should not restrict ourselves to such formulations. For example, Thomas Ogden (2001) has recently picked up Winnicott’s point that the good-enough mother “tries to insulate her baby from coincidences” (1949, 245). In puzzling out his own understanding of this enigmatic remark, Ogden suggests that “the coincidences or complications from which a baby needs to be insulated involve chance simultaneities of events that take place in the infant’s internal and external realities at a time when the two are only beginning to be differentiated from one another” (2001, 230). From this I draw the conclusion that wherever such differentiation is weak, great care must be used in the clinical handling of synchronistic phenomena; but in more mature states, when the compensatory meaning of a synchronistic event can be reflected upon, then an opportunity to glimpse the psyche in emergence can be transformative. This brings us to the question of the “analytic attitude,” namely, how and by what we are to be guided in the clinical encounter?

In 1997, George Bright published a remarkable paper, “Synchronicity as a Basis of Analytic Attitude.” He cogently argued that Jung’s theory of synchronicity offers an orientation towards psychological experience where connections are made based on perceived meanings rather than through imputations of cause and effect (something of which Winnicott was also keenly aware). In this model, “any *conscious* attribution of meaning, such as an analytic interpretation, must be seen as subjective and provisional” (618). If taken seriously, I think

that Bright's recommendation allows for enhanced tolerance of uncertainty and autonomy in unconscious processes as they occur in the clinical setting.

In the treatment of analysands who have reasonably well-developed sectors of their personalities but pockets of unresolved traumatic complexes, an intersubjective approach can often be employed with benefit. A combination of forming a working alliance with the more mature aspects of the personality while analyzing infantile roots of disturbances in the transference/countertransference field is a viable method of treatment in such cases. Under these conditions, it can be mutative to discuss dreams as productions emanating from the analytic third. Jung effectively suggested this on several occasions, as when he commented in 1934 to James Kirsch on a series of explicit transference dreams that one of Kirsch's patients was having: "With regard to your patient, it is quite correct that her dreams are occasioned by *you*. . . . In the deepest sense we all dream not *out of ourselves* but out of what lies *between us and the other*" (1973, 172). Discussing "telepathic dreams" with Charles Baudouin that same year, Jung, according to Baudouin, summed up his thoughts on the matter by

act[ing] them out as follows: with brief, firm gestures he touched first my forehead, then his own, and thirdly drew a great circle with his hand in the space between us; the three motions underscored the three clauses of this statement: "In short, one doesn't dream here, and one doesn't dream here, one dreams there." And *there* the hand kept turning, . . . and the idea, like the messenger, was launched. (McGuire and Hull 1977, 80)

Such intersubjective processes can operate with the analyst's dream material as well as the analysand's. I once treated a man who, despite numerous early abandonments, had become rather successful in business but was prone to subtle dissociative disconnections. In the midst of a session where we had touched on some painful affect that the patient was allowing himself gradually to come into limited contact with, requiring me to remain silent but receptive, I found myself suddenly recalling a dream from the previous night. At the time, I was

studying the psychological significance of a Renaissance text, and in the dream I had been puzzling over an actual image from this manuscript in which a black, a white, and a red bird were either fighting or dead within a flask. There was no reference or evident connection in the dream to this case. As the dream returned to consciousness, I wondered how it might be tied to the present moment and observed my patient carefully, discerning a slightly glazed look about him.

When I asked him about this, he sheepishly reported having “left the room.” Treating this as a field phenomenon, I remarked that I had found myself reflecting on my own images prior to that moment, and wondered what this diffuse state might be about. This reduced his felt shame and exposure, allowing him to go further into his “disappearance.” We subsequently discovered an unconscious suicide attempt he had made as a child, falling into an empty swimming pool and being rendered unconscious by the blow. This had occurred around a painful moment of abject loneliness, but had never been consciously acknowledged as an internal assault and attempt to annihilate himself. It was as if “my” dream were being redreamt within the hour, amplifying the analytic field with the unconscious rage that was knocking out consciousness through dissociation. The shared use of this coincidence, though not made explicit, helped to shift the therapy into a new, more affectively charged phase.

When focused on the rare or unique event, in keeping with Jung’s primary orientation, the theory of synchronicity places a correspondingly heightened value on the uniqueness of the individual. The core of individuality was personified by the ancient Greeks in the figure of the daemon, or what the Romans called the *genius*, the tutelary deity responsible for one’s being, begetting individuality yet operating at a collective or familial level.<sup>10</sup> Thus, in articulating the synchronicity principle, Jung also was presenting a psychology of genius. This theory, like many other productions of genius, is itself a delicate balance of brilliant insight and irrationality—that is, poised at the edge of chaos and order. Because of its tensions, this is inherently a dangerous realm, at times leading to breakthroughs in human thought and experience, and at others resulting in madness.

The recent spate of excellent popular biographies of mathematicians demonstrates this point effectively. Most notable are Amir Aczel's (2000) rendition of the career of Georg Cantor, the nineteenth-century mathematician who inaugurated the study of practical infinities with his explorations into "transfinite numbers" and the continuum hypothesis, as well as constructing the first fractal (the Cantor Set), but who also struggled with bouts of psychotic depression; and Sylvia Nasar's *A Beautiful Mind* (1998), recently adapted into an Academy Award-winning film, about the Nobel laureate John Forbes Nash, who suffered thirty years of paranoid schizophrenia before going into remission. Both these figures of genius successfully "solved" problems by novel approaches that re-envisioned previously insoluble dilemmas from the perspective of a higher order or dimension. (Many mathematicians consider Nash's most important work to be his solution for embedding any smooth Riemannian manifold into Euclidian space, e.g., a Klein bottle described using a four-dimensional geometry.) Yet their pursuit of ideas strained the personalities of both Cantor and Nash beyond the breaking point multiple times. It would seem that much of this strain came from trying to remain close to the font of their creativity, the glimpses each had of higher-order phenomena that resolved the problems and tensions in the previous order of the lower level. They were in a sense addicted to emergent experiences without the psychological capacity to tolerate such states of mind or to discern when they were getting lost in the higher-order visions. What is more, emergent phenomena are inherently ephemeral: what is emergent at a particular moment can with repetitious attempts to fix or codify it result in the loss of its living quality.

Nash's psychological dilemma was vividly captured in an exchange with the Harvard mathematician, George Mackey, who visited him at McLean Hospital. Mackey asked, "How could you . . . believe that extraterrestrials were sending you messages . . . that you are being recruited by aliens from outer space to save the world?" Nash replied, "Because the ideas I had about supernatural beings came to me, the same way that my mathematical ideas did. So I took them seriously." The brilliant and the insane had become coincident; the abstract

collapsed into the concrete. Nash's disastrous exertions in attempting to live on what he himself referred to as an "ultrallogical" plane, "breathing air too rare" for most humans, left him even in recovery questioning the value of being rational if it cost him his uniqueness (and grandiosity). He had not come to terms with the deadening compensatory ordering that unconsciously gripped him in his delusions as he tried to retain the fluidity of the emergent state. During his illness, he turned down a prestigious chair in mathematics from the University of Chicago because he said he was "scheduled to become Emperor of Antarctica." There could be no more ironically eloquent statement of the frozen mental world of his illness, far indeed from a living emergent process!

In part, Nash's illness was marked by a delusional turn towards numerology; his recovery followed a trajectory that showed signs of stepwise thawing of the fixed delusions until he was again able to do actual research. Hal Trotter, one of the mathematicians at Princeton who stayed in contact with Nash during this period, told Sylvia Nasar:

My impression was of a very gradual sort of improvement. In the early stages he was making up numbers out of names and being worried by what he found. Gradually, that went away. Then it was more mathematical numerology. Playing with formulas and factoring. It wasn't coherent math research, but it had lost its bizarre quality. Later it was real research. (1998, 350)

Even in Nash's psychosis there were elements of genius, as William Browder, the chair of mathematics at Princeton, reported in an interview with Nasar regarding the numerological period:

Nash was the greatest numerologist the world has ever seen. He would do these incredible manipulations with numbers. One day he called me and started with the date of Khrushchev's birth and worked right through to the Dow Jones average. He kept manipulating and putting in new numbers. What he came out with at the end was my Social Security number. He didn't say it was

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my Social Security number, and I wouldn't admit that it was. I tried not to give him satisfaction. Nash was never trying to convince anyone of anything. He was doing things from a scholarly point of view. . . . It was pure numerology, not applied. (335)

In this curious search for a synchronicity algorithm, we again see Nash's struggle to recover to be tied to finding his way back to an emergent mental space. Even in a psychotic state, his mathematical talent was highly individuated, and with remission this quality reasserted itself. Perhaps we could even go one step further and suggest that synchronistic occurrences associated with disturbed mental states may be the psyche's desperate attempt at self-organization, trying to make links to the external world in a bid to reconnect to life.

To conclude, many features of synchronistic experience can be reconsidered in light of contemporary science as a form of psychological emergence. Heralding the constellation of superordinate self-organizing states, synchronicities offer valuable clues to the unfolding of the psyche and its individuation, but they must be treated as value-neutral—that is, they do not in and of themselves convey direction to consciousness. Such direction can come only from reflective, ethical struggles with the meanings that we subjectively attribute to the occurrences in question. The ethical implication and impact on analytic training of these formulations require separate elaboration that I hope to pursue elsewhere.

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### Notes

1. Personal relations with two preeminent physicists were essential to Jung's formulation of his theory of synchronicity. On several occasions, from 1909 through 1912, Einstein was a dinner guest at Jung's home in Zurich (Jung 1975, 108–9). Their conversations imbued Jung with the conviction that there was a powerful resonance between his formulations of psychological reality and the relativity of space-time. Later, from the early 1930s until his death in 1958, Wolfgang Pauli, a Nobel Prize-winning authority on quantum mechanics, was interested in synchronicity. For details, see their correspondence (Meier 2001) as well as their jointly published book (Jung and Pauli 1952).

2. Pauli is here amplifying Jung's concern that the anomalous results he initially obtained in a survey (a synchronistic occurrence in the initial batch of replies that subsequently faded as larger amounts of data were accumulated) would be misread by statisticians. In the same letter, Pauli remarks: "This 'pernicious influence' consists in the elimination of the actual influence of the psychic state of the participants by means of the statistical formation of mean values, in that these values are measured without this psychic state being taken into consideration" (Meier 2001, 54).
3. According to an editorial note, the passage to which Pauli refers is in Jung's *Synchronicity: An Acausal Connecting Principle* (Collected Works, vol. 8, par. 966).
4. Hogenson examines the relevance of the writings of the neo-Darwinians James Mark Baldwin and C. Lloyd Morgan to Jung's conceptualization of his theory of archetypes. In a paper presented in September 2002 at the Second International Conference of Analytical Psychology and Chinese Culture, Guangzhou, China, I discussed Leibniz's place in this tradition and his importance for Jung's formulation of the synchronicity hypothesis.
5. In Jung's *Collected Works*, references typically give two dates—the first, the original date of publication of a paper or book; and the second, the date of the revised version that has been chosen for republication. Often, Jung's works went through multiple editions, though not all the editorial modifications are identified in the *Collected Works* nor is there a compilation of original editions. This makes it extremely difficult to pinpoint the date of a specific passage. If funding can be secured, Jung scholars hope to tackle these textual problems in the next decade.
6. There is, of course, a corresponding psychoanalytic literature on a range of phenomena that could be categorized along similar lines, beginning with Freud's "The 'Uncanny'" (1919), "Psychoanalysis and Telepathy" (1941), and "Dreams and Telepathy" (1922), as well as his correspondences with Jung and Ferenczi. It is beyond the scope of this paper to review this body of work, though this would be a useful exercise in comparative analysis.
7. This vignette has become Jung's most frequently cited example on the topic. He reported the story in his 1952 monograph:

A young woman I was treating had, at a critical moment, a dream in which she was given a golden scarab. While she was telling me this dream I sat with my back to the closed window. Suddenly I heard a noise behind me, like a gentle tapping. I turned round and saw a flying insect knocking against the window-pane from outside. I opened the window and caught the creature in the air as it flew in. It was the nearest analogy to a golden scarab that one finds in our latitudes, a scarabaeid beetle, the common rose-chafer (*Cetonia aurata*), which contrary to its usual habits had evidently felt an urge to get into a dark room at this particular moment. (par. 843)

In another retelling of the event, Jung notes that the golden scarab in the dream was a "costly piece of jewelry," and after he caught the beetle he handed it to his patient, saying, "Here is your scarab" (par. 982).

8. This phrase, translated as "lowering of the mental level," originated with Pierre Janet, with whom Jung spent a semester studying at the Salpêtrière, a generation after Freud had studied with Charcot. Several clear clinical examples of this kind of reading can be found in Rosemary Gordon's *Bridges* (1993), especially in chapter 24.
9. The intensity of synchronistic experiences associated with patients having histories of trauma suggests the utility of understanding them by applying the model pioneered by Per Bak in the study of self-organizing criticality. According to Bak, "complex behavior in nature reflects the tendency of large systems with many components to evolve into a poised, 'critical' state way out of balance, where minor disturbances may lead to events called avalanches, of all sizes"

(1996, 1). Application of this model to the present study would suggest that synchronicities also manifest a large range of intensities and raises the possibility of a research project to examine the distribution of meaningful coincidences in analysis. If these coincidences were shown to follow the markers of self-organizing criticality (in which the distribution of intensities obeys a power law and displays  $1/f$  noise as well as fractal geometry), then there would indeed be very strong experimental support for the hypothesis that they are evidence of a self-organizing complex system poised at or near a critical state. This would not explain the mechanism by which they occurred, but it would demonstrate that a broad range of such coincidences have an underlying dynamic, even if it remains unelucidated, just as Bak has shown that various geophysical phenomena such as earthquakes must share a common dynamic.

10. For a study of this figure, see Nietzsche (1975).

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