

The Interpretation of Telepathy-like Effects: A Novel Electromagnetic and Synchronistic Version of the Psychoanalytic Model

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Abstract

A novel approach is introduced to explain the appearance of telepathy-like effects as the consequence of disturbances in the normal equilibration or 'equilibrated non-equilibrium' of ordinary human experience. A new electromagnetic version of Freud's psychoanalytic model is proposed, which begins by treating the mind as a charged object that interacts with others and the environment in a generally balanced pairwise fashion. If the brain is assigned a net charge for a given state of mind, there may be considered to be a balancing of superego, ego, and id level interactions. A temporary altered state of consciousness may result from an over or undercharged experience (from a social perturbation or unconscious wish) that would otherwise be processed during normal habituated experience as part of interdependent behavior during conscious awareness or sleep. Deviations from the normal "equilibration" of such balanced charge states that are not immediately cathected or decathected during personal interactions may result in the deceptive perception of telepathy or a neurosis-like symptom, perhaps in the form of a remembered dream. However, a genuine telepathy-like phenomenon may be postulated to exist due to synchronistic effects when considering the unique aspects of synchronous human behavior and possible subconscious information acquisition through inference. Electrochemical charges and energies may be assigned to the thoughts, emotions and actions of the human body and these may often be psychologically and socially coordinated and coherent with others: two people may change state at the same time. A macroscopically relevant coherence may result in approximately simultaneous thoughts and actions, and even a form of knowledge, between separated people.

Key Words: synchronicity, psychoanalysis, quantum mechanics, entanglement, electromagnetism

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I. Introduction

Toward the latter part of his career, beginning with his unpublished 1921 paper *Psychoanalysis and Telepathy*, Freud expressed significant interest regarding telepathy-like effects (Freud, 1921). But at the same time he also vigorously cautioned

about the dangers of such occult explorations and was quite harsh about unscientific attempts by the occultists at "growing rich at a single blow by means of a successful speculation" (Freud, 1921; p.180). For them, disconfirming cases conveniently proved nothing, and they could not wait for the appropriate time to move beyond the "constraint of the familiar laws of physics and chemistry" to develop a proper materialist and mechanistic interpretation of the unique human qualities of the mind and

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spirit (Freud, 1921; p.179). In fact, it could very well be the case that in most instances where he uses the word 'telepathy' it actually connotes more of a reference to other interpretations rather than his own conception of it. Nevertheless, he did seem to believe that there could be a kind of telepathic-like phenomenon, albeit one that may be psychoanalytically based. He distinctly described the possibility as "thought-transference," which referred to an unconscious mode of communication that could result in knowledge about another person that becomes conscious at a simultaneous or later time (Freud, 1922).

There may be important differences between Freud's ideas about "thought-transference" and that of typical notions of telepathy. For him, the effect began closely related to his prime concept of transference in psychoanalysis and a playing out of the Oedipus complex. He believed telepathy might involve an unconscious wish that was somehow being "inducted" into the receptive mind of another. As is well known, before all else, he always sought to find the missing unconscious psychoanalytic pieces in puzzles of the mind, which of course usually revolved around sexuality. It is not absolutely clear that he ever became fully convinced of knowledge transfer by a special physical means, and he in fact claimed to know nothing about that (Freud, 1922). His case studies typically involved direct personal interactions between individuals and reports that could be explained by invoking the unconscious wishes of the subject seeking to be fulfilled and perhaps convenient embellishments by the memory to achieve that end. Therefore, while he tried to remain scientifically impartial on the topic (Freud, 1922), if he did truly believe in it, there may be a substantial difference between his ideas and those that would involve the process of direct information transfer by a physical means beyond the known senses.

These views were largely responsible for his divergence with Carl Jung, who was particularly taken with such effects and fully engrossed in attempting to understand them (Williams, 2010). Jung dubbed his own later version of the effect "synchronicity," which postulated a special acausal connection

between two "meaningfully" related events that otherwise bore no obvious causal relation to each other (Jung, 1955). Although Jung's contribution to the subject has surely resulted in some important insights (Donati, 2004), Freud's skepticism was perhaps somewhat justified, because Jung failed to find the quantum mechanical explanation he was seeking to connect these mysterious meaningfully related synchronistic events. Even with the help of the renowned quantum physicist Wolfgang Pauli, Jung was unable to pinpoint a direct physical "quantum" linking between individuals. He ultimately resorted to a more modest conceptual analogy with indeterministic quantum mechanical events that arose from "constellations" of the unknowable workings of the unconscious that seemed to align with external events (Jung, 1955).

Similarly, there is now currently a great deal of interest in the phenomenon of quantum entanglement and how it may apply to the mind and telepathy (Radin, 2006). Such quantum entanglement of mind ideas are generating a new debate, because the phenomenon is so highly conceptually related and would be very analogous to a kind of telepathy. It would seem to be a plausible candidate for a possible mechanism of telepathy, or synchronicity. But, unfortunately, it remains difficult to see how such a mind-to-mind transmission by an identical quantum physical mechanism between brains would work through a biological mechanism. The physical events of quantum mechanics are typically not fully commensurable with the macroscopic properties of biology and psychology. This is due to the well-known correspondence principle that limits the correlation and relevance of most quantum events to the macroscopic world (Bohr, 1920). Only at the most microscopic level can quantum physics principles be directly applied without a dramatic weakening and "decoherence" of the correlation, or a dramatic statistical loss of specific microscopic physical information as the macroscopic level is approached (Yu and Eberly, 2009; Arndt *et al.*, 2009). While there are certainly some examples of quantum mechanical coherence and tunneling behavior in biochemistry and molecular biology at the molecular scale, particularly in energy conversion processes

(Moser *et al.*, 1992; Collini *et al.*, 2010), at the present time it remains challenging to see how this would translate to the much larger masses, distances and complex aggregate properties of relatively enormous brains and bodies. This would not be to say it is impossible, but to be scientifically rigorous in acknowledging that there are very substantial biophysical obstacles that would need to be addressed (Haas, 2010b).

Although direct application of the entanglement phenomenon to the mind is conceivable, history has shown that concepts from the physical sciences must usually be modified or specifically tailored when they are applied to the principles and complex parameters guiding macroscopic objects and psychology (Haas, 2010a). Larger objects tend to be dominated by classical-like principles and a collection of other well-known standardized factors (e.g., the classical laws of motion, including friction, tension, pressure, temperature). For instance, although humans are fundamentally comprised of mass-energy, and indeed pure quantum energy may be directly involved in processes such as vision, the contributions from relativistic effects on the entire brain or body itself at low velocities are absolutely miniscule and essentially irrelevant at most times. This truth about the physical sciences and the relative uniqueness of biology was probably fully understood by Freud when he applied the classical principles of thermodynamics to the charges and discharges of tension in the libido. He specifically mentioned relativity in his discussion of telepathy, stating how the appeal of the new theory of relativity at the turn of the previous century was perhaps contributing fuel to occult notions about telepathy, and that those temptations should be resisted (Freud, 1921). It may therefore be helpful to keep in mind the allure of these ideas when attempting to apply concepts from physics and chemistry to the principles of macroscopic biology and psychology, and to seek practicable approaches.

Freud's psychoanalytic concepts have already been successful in helping to provide much of the foundation for a century of advancement in psychology and understanding the mind. It would therefore seem logical to follow along those lines when

continuing the application of newer physical theories to what is already a very useful model of cognitive and behavioral mechanics. New concepts regarding the physical sciences and the mind would do well if they are designed to work in conjunction within that foundation, which is in fact primarily classically based. This would not be to rule out the possibility of further exploration of the application of special quantum physical concepts and principles, but rather, to suggest that it may be most fruitful to begin by pursuing a physical approach related to a model that has already shown itself to be commensurable and corresponding.

Telepathy, by definition of the word, must involve the transfer of information and knowledge mind-to-mind by an independent physical mechanism over distances. This would seem to limit or rule out information transfer by the known ordinary senses, including vision, hearing, touch, and the other internally perceivable psychological and biological detection of events. Clearly, these senses are the source of most, if not all, personal and interpersonal information and bodily feedback. It would therefore seem most likely that first and foremost these senses and the conscious, subconscious, and unconscious behavior of the brain/body would offer a mode and mechanism for a telepathy-like effect. All of this is of course assuming that telepathy, according to the formal definition of it, exists in the first place. There have certainly been many disconfirming studies that suggest belief in its very existence is a misperception or error itself, although this cannot be reviewed in detail here (for possibilities of error based on statistical factors, see Brugger and Graves, 1997; Griffiths and Tenenbaum, 2007). The study of telepathy is perhaps not so unwisely eschewed by a skeptical scientific establishment. At present, it remains difficult to be able to refer to a consistently reproducible experimental example of a pure form of it, although there have been some suggestive hints of it reported recently (e.g., Brown and Sheldrake, 2001).

It would therefore perhaps be helpful to identify and pinpoint an important possible psychological misunderstanding of such effect acting in a deceptive way. There

are certainly many opportunities for a misperception or misinterpretation regarding such a complicated phenomenon that seems to be physically real to so many people, even those as unlikely to believe in it as Freud. Perhaps following an interpretation of this nature, the possibility of a realistic form of it or a related analog may remain feasible; and the most appropriate psychological and physical explanation can be delineated. It could very well be that what misleadingly appears to many to be a direct form of “telepathy,” for understandable reasons, is actually a similar phenomenon acting under its guise. Other possible modes for “telepathy” and related phenomena, of effects that may highly resemble it and that yield a similar experience, could very well occur through a variety of different and alternative mechanisms. There could very well be another phenomenon that is highly analogous to telepathy, both conceptually and in its experienced consequences, that is often misconstrued for it. This possibility may remain ill-defined and poorly understood. Understanding what this possibility could be may be the best way to begin solving this often called “spooky” mystery (Leder, 2005).

For example, there could be only a small difference between “telepathy” and what might be called a synchronistic effect, as derived from Jung’s concept. Both would involve simultaneity of thoughts through an improbable relation between two individuals separated at a distance; where in the usual definition it must require a form of direct thought communication. However, an improved mechanism based on the latter could imply many more possibilities. For instance, there could in fact be a significant subconscious synchronization between a pair of individuals acting through a natural social and psychological coherence those results in a simultaneous cognition or action. This could occur through a number of possible psychological mechanisms, and it would still strongly resemble a telepathic effect. Further, a synchronicity effect could also operate through a synchronization that is enacted from the generally coherent external forces due to the larger surrounding environment or milieu acting on the two individuals. This would in fact be more

analogous to the kind of “hidden variable” that Einstein suggested in his famous EPR paper regarding such “spooky action at a distance” (Einstein *et al.*, 1935). There could indeed be unperceived and uninterpreted causal psychological forces at work that have yet to be properly elucidated. Psychology, like quantum mechanics itself, may indeed be somewhat “incomplete,” as Einstein strongly believed was the real problem.

Jung’s concept of synchronicity has helped to clarify that two events can be related to each other through the unconscious in a synchronous way even though they *appear* to be causally unrelated (it is primarily this point that he may have been deficient on, by failing to realize there could be other possible causal relations; see Williams, 2010). However, the events could still be synchronized and coherent even when separated in space, much like two synchronized clocks. These clocks may be set to go off at the same time, or be forced to— at a time which may determined before, during or after an initial pairing. Recognition of the idea of a possible synchronous coherence due to factors operating outside of or beneath conscious awareness may be of critical importance. This has now begun to be clarified by contemporary researchers with the concept of “emergence” (Cambray, 2002). Emergence describes how there can be a sudden coming to light from a number of complex or chaotic unconscious factors that result in a moment of coherent order or stability (Cambray, 2009). This can also occur at a moment of realization by two individuals during a mutual agreement of their separate but cooperatively “merged” minds (Hogenson, 2009; Hove, 2008; Lyons-Ruth, 1998). Two people could have an approximately simultaneous related thought while separated in location that emerges in an ordered way, even though they are temporarily physically apart and the sources of the internal and external entrainment between them are not transparent.

At the present time it remains difficult to see how or why this would need to be achieved through a specific directly radiating quantum mechanical or other direct form of electromagnetic linking

mechanism acting through a long-range biological mechanism. It may be more simply suggested that the application of the concept of the entanglement or coherence of minds, i.e., a different utilization of the concept, would be most likely to occur through the normal macroscopic interactions and behavior of human brains and bodies. It would therefore seem that an optimal approach would be one that involves both psychoanalytic principles as well as incorporating synchronistic and physical aspects that are macroscopically applicable to cognitive and behavioral effects.

Recently, I have hypothesized that brains and bodies may act in an independent yet somewhat synchronously aligned and coupled way through their psychology and their biochemical and neurochemical processes, even while they are apart (Haas, 2010a; 2010b). I have also begun to show how some physical principles, especially macroscopically relevant electromagnetic ones *based primarily within the brain and body*, may be applied to cognitive and behavioral psychology. Basic physical principles can indeed be applied to the mind and behavior in a practicable way when they are both commensurable and corresponding with it, and properly designed for the occasion (Haas, 2010b). Here, I will begin to expand this model further by showing how the central structural psychoanalytic principles may themselves work in an electromagnetically-based way. I will then explain how this may be applied to help explain the somewhat illusory appearance of direct “telepathy,” and identify a possible real and genuine telepathy-like effect based upon the synchronistic aspects of human dyads and groups. Recent empirical evidence regarding behavioral synchrony and human inference can also help explain how information may be transferred subliminally in this model, and supports a model of synchronistic coherence.

II. Background and Evidence for a New Hypothesis

Nearly a century after the founding of psychoanalysis, Freud might be impressed with the new psychological knowledge and tools available to help solve the problem of telepathy as well as other aspects his

theories. Recently, much has been revealed about the unconscious processes that mentally and “psychically” (i.e., from within the psyche) socially bond, entrain, and coordinate individuals with each other (Semin, 2007). Particularly pertinent may be developments regarding unique human psychological inference capabilities (Gallese, 2001). In addition to the usual ordinary cues of social interaction, inference capacities may provide an important additional subconscious mechanism through which individuals communicate a great deal of information. Through inference, individuals may be able to read and intuit much about another person and their thoughts and opinions, much of which may often be out of immediate control or access of ordinary awareness. This human capability could help to provide the basis for the actual archaic mode of communication Freud believed may transfer information, especially if much of it were to be mediated beneath consciousness. For instance, the needs and wishes of the “id” (Freud, 1960) might be indirectly inferred by a person through gross and subtle social cues during a conscious interaction at the ego level, and often, the perceiver may not be entirely aware of this. The information could become stored and then activated in a useful way in the observer’s id and consciousness at the same or a later time.

Large amounts of information may be acquired through inference (Gallese *et al.*, 2007), as well as through the most obvious and direct social cues. Mirror neurons respond by merely observing actions of others, and may play a dramatic role in mimicry and social coordination (Semin and Cacioppo, 2008). It has been demonstrated that entire homologous sets of motor neurons will fire only by watching another person perform an action, even when not performing it oneself. This feature may create an ideal capacity for establishing relatively symmetrical and synchronous behavior with others. For example, when watching and listening to another individual speak, their words and actions may activate a nearly equal mental response during receptive listening (Keysers and Gazzola, 2009). From those actions, both the stated and unstated goals and intentions of the actor may become clear through their

statements or subtle nuances in behavior (Gallese *et al.*, 2007). These may then be cognitively and physically acted upon, by both conscious and unconscious mechanisms over a period of time. Two peoples' innate drives and their rational thoughts and behavior may become synchronized (Rotondo and Boker, 2002; Semin and Cacioppo, 2008). As regards telepathy and synchronicity, it would then perhaps not be so surprising when two individuals think of each other or reencounter each other unexpectedly or "coincidentally" at the same time. This could very well be the emergence of the product of a consciously and unconsciously guided process of mutual social coordination, motivation, and goal seeking. It is now understood that much of this kind of goal seeking can occur even though the seeker may be unaware of it (Custers and Aarts, 2010).

Very recent experimental research has also begun to verify the importance of certain kinds of functional "synchrony" or synchronization in human behavior that can persist through time and space (Menaker and Davidson, 2003; Neda *et al.*, 2000). This has been demonstrated in synchronized finger-tapping experiments and other forms of social coordination that persist for a brief time even after the prior period of synchronization through visual and auditory cues has ended (Oullier *et al.*, 2008; Valdesolo *et al.*, 2010). There is no reason to believe this could not also occur over longer periods of time. For example, a social coherence or interpersonal synchrony could conceivably be regulated by a longer-term mechanism, constituted by the more general guiding features of the brain as well as what would be called the ego and id (Freud, 1960). This long-term component could be modeled well by using a "superego" that controls and guides human behavior in a more general and authoritative way. Although the superego is usually treated as a governing structural factor in the mind constituting its rules and restrictions, it may also be considered that it can be related to the longer-term processes and decisions that an individual will make.

Previously, I have introduced how it may be feasible and possible to define mental

and emotional states in terms of specific amounts of charge and energy (Haas, 2010a; 2010b). I have postulated that the brain and the supporting body may be considered to reside in a sum charge state of a general positive, negative, or neutral character. It can be considered that for a given state of mind, the neural states of groups of neurons may be treated as containing a net positive or negative charge as well as a potential/kinetic energy state. Such states may correlate directly with an individual's cognitive-behavioral activity or receptivity. This is to say, a positive neurochemical and electrochemical state of the brain may indeed lead to what is generally considered to be a "positive" action or activity. A negative state (not necessarily connoting something pejorative) may lead to a higher level of receptivity while still requiring active participation. For instance, a positive active speaker might be watched and listened to by a more receptive negative listener. In both cases, an approximately equal and complementary amount of mental charge and energy conversion may be required.

How can the new empirical evidence regarding human inference and synchronization and the new electromagnetic hypothesis I have introduced be applied to solve the problem of what is often perceived as telepathy or "thought-transference"? And how does this relate to other processes driven by unconscious processing, such as dreaming? In the second half of this paper, I will describe how in conjunction with the aforementioned relatively sophisticated capabilities for interpersonal coordination, the balancing of charge and energy leads to a useful new model with which to properly interpret synchronistic effects. The reasons why experiences may sometimes appear to be so telepathy-like become clearer: there may be an approximately simultaneous mental state change and a complementary agreement/coherence in mental states. This would also imply an aspect of knowledge or information, although not directly transmitted. This feature of interdependent activity may be a natural and central part of human thought and behavior. At times, telepathy-like effects may become particularly salient. This may be especially true when there are deviations from a mean

“equilibrated” state of cognitive and behavioral activity, particularly when there are significant disturbances or enhancements that tend to make the underlying coherence within dyads and groups more obvious. Statistically, this is more commonly known as regression to the mean or the “regression fallacy” (Freedman *et al.*, 1998). What often appears to be extraordinary may only be thought to be so because it appears to be so unusual when compared to what occurs most of the time.

III. The Brain as Quantitatively Charged Energy in Balanced States

As suggested, it may be quite reasonable to consider states of the brain to contain a net charge associated with a given cognitive, emotional, or behavioral unit of action (Haas 2010a; 2010b). This may be empirically validated in the near future, because in principle it is straightforward to measure and quantify this using EEG or fMRI (Krippner and Friedman, 2010). Such units of interaction might also be considered “quantized,” to the extent that a quantity of thought and/or action occurs in a discrete bundle or “episode” of thought or action (Figure 1). For instance, a “charged” interpersonal interaction of a conversation between two oppositely charged individuals may occur until the point at which the social exchange is no longer productive. This could occur after 15 minutes or 1 hour of conversation, 3 hours of watching a movie or playing a game together, or after a long day of work with colleagues. Regardless of the many possible ways and formats for interacting with others, and the different qualities and aspects individuals have to offer to each other, it may generally be considered that a certain amount of mental and bodily charge and energy will be used to accomplish and satisfy these needs. For the purposes of simplification, a roughly equal social or emotional exchange can be considered to take place. Much of this will occur through unconscious and imperceptible processes as well as due to the most consciously perceptible thoughts, drives and actions.

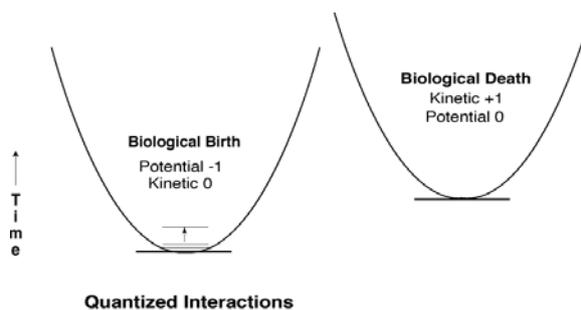


Figure 1. Quantized Interactions: Lifetime Energy Diagram. An individual is considered to be born with a full normalized potential energy of 1 (charge -1) and kinetic energy 0. At death, the kinetic energy is 1 (charge +1) and potential is 0. The individual proceeds through “quantized” interactions during life which transform the energy from one form to the other.

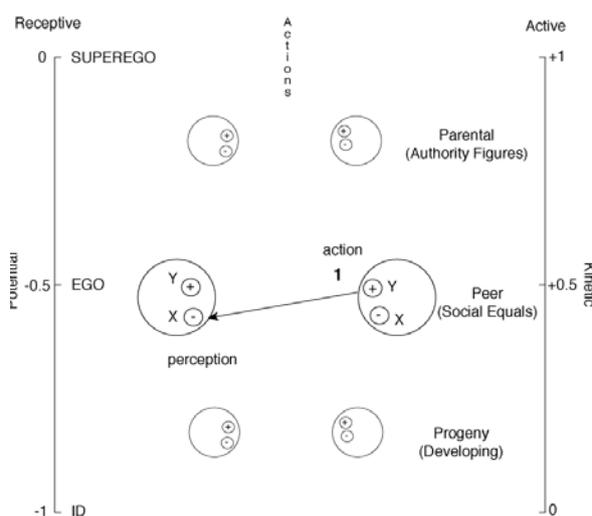


Figure 2. Simplified Basic Units of a Psychobiophysical Pair Interaction. **A.** Large circles represent brains; small circles designate charge states. During an ego-ego exchange, a slightly more positive mental state results in an action (e.g. speaking) to a slightly more negative state involving receptivity (e.g. listening). Total charge must add to zero to reflect the baseline “equilibrated non-equilibrium” state balance of charge and equilibrium “free energy” (energy set at 1 per individual for the purposes of simplification). In this idealized equilibrated state, approximately equal quantitative and “simultaneous” changes are expected to occur in the minds of the two individuals, whether they are together or not. This may also occur concomitantly with other pairs who are part of the group structure, and may or may not be present as well.

B. Superego-id exchange, similar to (A). All interactions take place through the ego-ego level but differ more strongly in their id and superego content. During a superego-id exchange a parental or authority figure transfers positive kinetic energy (e.g. knowledge) into the negative id. The negative potential of the id is converted into a small amount of new positive energy. This will be expressed in subsequent ego-ego interactions at a slightly higher individual kinetic energy state. The reader may note that the interaction energy in the case shown is greater than one (~+0.8/-0.8, sum ~1.6). This can be accounted for by other factors, which will be introduced at a later time.

Using such an idealized formulation of charge and discharge, in a way not unrelated to that originally developed by Freud, it becomes possible to create a basic electromagnetic physical model based upon the general structural psychoanalytic concepts of the superego, ego, and id. An overall balanced state of a constant sum total energy and charge can be proposed to obligatorily change together in a generally “equilibrated” way between pairs within a small human group system. For example, this could be within a family, or a pair of individuals existing within a larger group structure. For the purposes of this brief introduction to a functional “psychobiophysical” model (Haas, 2010a), the issue is to elucidate the most basic electromagnetic charge and energy related principles. It may then be possible to superimpose the many other social, cognitive and biological factors that determine thought and behavioral actions onto this kind of a fundamental dyadic and small group architectural framework. The model is diagrammatically represented in Figure 2.

It may be considered that most human interactions can be simplified as being primarily one of two types, namely either a superego-id interaction or ego-ego interaction (not unlike transactional analysis, see Harris, 1974). Many other possible combinations and admixtures are certainly likely to occur, but generally speaking, the primary quality of an interaction might be treated as revolving around of one of these two types. For instance a romantic relationship would contain a strong id-id overlap, but perhaps most of the interpersonal behavior and communication between the pair must occur at the ego-ego level. Thus, on the whole, pairwise interpersonal interactions may be treated as being of one of these two basic pure forms, where conscious interaction must be mediated through the rational ego level. For example, interactions between two friends, partners, or equal colleagues would be considered a more or less equal interaction occurring at the ego-ego level, involving an approximately equal rational contribution by each partner. Similarly, a superego-id character would be displayed in a parental or authority figure relationship, which may also occur in any number of

substitutive forms, including parent/offspring, teacher/student, employer/employee, leader/follower, etc. In this case of superego-id overlap as well, much of the communication and interaction will take place through the conscious ego level, although there is a strong difference in the quality of the charges and social aspects between the superego and id levels.

A rather useful model can then be achieved by considering the superego, ego, and id as charged energy levels, and by normalizing them with regard to both a total “lifetime” of potential and kinetic energy as well as short-term components. This is shown on the axes in Figure 2 A and B. For instance, at birth, an individual can be considered to contain a full unit (-1) of potential energy, primarily in the form of untransformed instinctual drives, and an older person a full kinetic energy of (+1) in which the potential energy has already been converted into the form of knowledge, experience, or social power. The sum of an individual’s “lifetime” kinetic and potential energy at a given point in time can be normalized to be a sum total of one. However, there must also be the transient (short-term) “quantized” interactive potential/kinetic balancing for given interactions between two individuals. For a group of two individuals the sum energy of any particular interaction will be one, and the total group energy will be two. For example, as shown in Figure 2A, during a highly idealized transient ego-ego interaction (perhaps at the middle point of one’s lifetime) the kinetic/potential energy of each individual can be treated as $+0.5/-0.5$ (absolute value sum = 1). When the two individuals interact with each other, one will be of a slightly more kinetic character, and the other more potential (It may also be considered that in sexually based relationships this will be the general persisting quality of the relationship as it is the nature of sexual attraction; this can be denoted for now as Y/X). The electromagnetic ‘rule’ or principle is that the sum of charges of any given exchange will be zero and the sum total energy, for each individual and the exchange itself will be one; for the pair, the total energy will be two. It will be left to the reader as an exercise to convince themselves of the simple physical

and mathematical basis of the model by making the same calculations for the superego-id case in Figure 2B, although there are some differences (see details in legend). For now, this model must be presented in this simplified way, as there will clearly be other factors that come into play.

When charge and energy are conserved in this manner (renormalization at any time is also possible), it may then be considered that there is a normal “equilibrated” level. The sum total work of a pairwise interaction will generally be equal to the “equilibrium” value. Again, for simplification, this can be selected as the total energy arbitrarily set at the constant value of one for each individual, and two for the pair. However, it is well-known that in reality, biological life generally represents an out-of-equilibrium state (additional ΔG always required). There must always be “free energy” available to do chemical, or biochemical mental, and physical, work. Thus, at what is defined here as an “equilibrated non-equilibrium” state, an individual’s own personal energy is estimated to have a generally constant sum equal to one (incidentally, this is also like the Hamiltonian in quantum mechanics). This is to say, a person generally has a quantifiable amount of biochemically based personal mental and bodily energy to spend, and the value of this mental, emotional and physical “power” can be treated as remaining roughly constant. A more extensive explanation of these premises cannot be expanded upon further here, as the primary purpose of this paper is to attempt to explain the anomaly of telepathic-like and synchronistic effects.

IV. Existence in Equilibrated Non-Equilibrium States

According to the pleasure principle (Freud, 1961a), people generally seek favorable and optimal interactions that are pleasurable as they feel compelled to satisfy tensions and move toward personal biological development, growth, and productive behavior. The so-called healthy state of this behavior may be considered to be much like a state of equilibrium, even though the basic principles of biochemistry and biology, and psychoanalysis, tell us that the circumstances of life dictate existence in a

somewhat out-of-equilibrium and open state. In fact, Freud believed that the usual human state or condition was probably one of ungratified tension (Freud, 1961a), which would then be constantly sought to be relieved through the active pursuit and seeking of pleasure. This mean or average state of constant tension, deprivation, or at times excess, is also inherent in the thermodynamic definition of the out-of-equilibrium state of chemistry and the bioenergetics of life. But to some degree, at a higher level of analysis as regards psychological experience, it can probably be considered (and perhaps specially for the problem of human consciousness) that there is also a kind of real equilibration as well.

For instance, to make the physical principle clear, the “normal” state for biochemical energy generation for muscular, or neural action, requires an excess of ATP to ADP beyond the equilibrium value of zero free energy available so that it can do work. This will be so that there is more ATP available to an enzyme, e.g. myosin or kinesin (Astumian, 2010), to go beyond the equilibrium constant value that determines a “resting” average nonproductive back and forth binding, or catalysis, of both ADP and ATP on the enzyme’s active site. When an enzyme must do additional work, or a ratcheting forward, beyond its typically uneventful average ATP/ADP on and off equilibrium value, it requires an additional amount of ATP to do this work (if the reader needs further background in this thermodynamic biochemical principle of bioenergetics, it would be advised to consult with a general biochemistry textbook). But in a system that is already constantly doing work in an out-of-equilibrium state, for example through the constant expenditure of energy during muscular and/or neural activity, it may be considered that there also exists a more or less equilibrated state for the organism and its behavior on the whole. This would be much like a sort of individual or group “homeostasis,” except slightly different, because it pertains to a collection of inter-individual pairings and their mental and behavioral activities. This is dependent, at the “lower” or more basic level, upon the out-of-equilibrium energetic underpinnings of the biochemistry of all molecular biological activity. However, when the

system needs to do work above the average baseline cognitive-behavioral state of non-equilibrium, for which it may already be considered to an extent equilibrated in a more general way (for instance, perhaps at the level of an arbitrarily defined “conscious stability”), there may then be considered something of a more substantial temporary alteration or deviation.

For instance, most psychological and social beings need and desire a certain amount of social interaction as well as its opposite, such as being alone. To attain an equilibrium level of “satisfaction” (if such a thing can be achieved), this must occur at some regular kind of rate or on/off frequency. An individual who consistently alternates between doing things with another person or simply being alone, sleeping, or any other number of activities, may be considered to be at some sort of equilibrium mean on/off value for their average psychological and social state— even though this is by definition an out-of-equilibrium energy requiring vacillation between activities. However, like a muscle that must sometimes work harder to move beyond its resting equilibrium state of essentially doing nothing, our cognitive, emotional, and social behaviors may be considered to fluctuate around some average equilibrated level. Mental and behavioral processes that significantly move a person above or below what might be defined as the baseline equilibrium value, which is really an already out-of-equilibrium state, would then seem more like significant perturbations or disturbances. Thus, at the times when individuals move in excess out of the already non-equilibrium state considered “equilibrated” at the satisfactory level, then there may be considered to be an extra or lacking amount of mental charge and energy. It is precisely this missing or additional energy, in deviating from the “equilibrated non-equilibrium” state, that must then be processed or compensated for.

V. The Interpretation of Telepathy-like Phenomena

This lack or surplus of energy is most likely to be dependent on and generated by an instinctually based component in the form of human drives and motivations. At the times when a person’s basic needs are not directly

and immediately fulfilled, the ego may then in essence be “forced” to compensate for this (in fact, through a thermodynamic electrochemical mental force), or to mitigate and dampen its effects in cases of over gratification. It must come up with a cognitive adjustment and an explanation for a suboptimal under or overcharged mental state. This may relate well with Freud’s concept of cathexis or decathexis, although in this case the psychological strain or “trauma” is less severe and a much milder and more common function of the dilemma of being human. This state of affairs may be considered largely a function of living within technologically advanced civilization itself (Freud, 1961a). The reality principle will ordinarily help the ego adjust to the necessary delays in gratification dictated by groups and society. Nevertheless, here it is considered that this often leads to a mild form of an “altered state of consciousness.” Consequently, if the tension is not rationally understood and cognitively adjusted for, there may be the *overperception* or *underperception* of telepathy-like effects. This may be because to a considerable extent there is already an underlying synchronistic aspect of behavior that is a natural part of the equilibrated (non-equilibrium) state of existence. At times, we may sometimes become sharply aware of it or disconnected regarding the perception of the usual average coherence of interdependent behavior.

Thus, in the cases when there is an insufficient amount of direct communication between two people whom are already involved with each other, the mind must come up with an explanation for this and even guesses about the missing person for whom an emotional bond continues to exist and persist. This is because of the felt need or wish to be with them, or a substitute for them, to satisfy these strongly felt needs. It may also be due to the fact that there is a substantial amount of logistics involved in the bonding, entrainment, coordination, and alignment between them. If some of the information that regulates this entrainment and coordination were to be subconscious and perhaps acquired through inference, then at those times of privation (or overabundance) the material acquired beneath the surface of consciousness might become more evident. This would be in

addition to the fact that the already explicitly available social coordination knowledge has also become much more relevant and will be utilized. Consequently, if all of the parameters and factors involved in the social coordination are not properly cognized and taken into account by an individual, then the mind may then lapse into strange sorts of “fabrications” or confabulations. On the other hand, if an individual is more astutely aware of these causal and logistical factors, they may have a much more efficient and rational experience of it.

For example, I normally see my friend or partner X once every few days, or weeks. There are many reasons why I choose to do this, because I like X and they make me feel good for what must really be mutually agreed upon factors, or else it would probably not be happening on a regular basis. But when the usual interval becomes significantly shortened or lengthened, I might begin to miss (or become tired of) person X. At the times of greater delay, I may then feel the need think of that person, and then perhaps contact them, to satisfy the need. Normally, during the regularly distributed meeting periods, it may be hardly noticed that there is actually a high level of mutual synchronous alignment and coherence. It seems quite uneventful in the usual routine to simply contact X every few days. But at a time when the regular “equilibrated” frequency has changed significantly, and X is contacted at a seemingly special or coincidental time, the privation may have lead to the belief that both people have extraordinarily thought of each other again at the same time. Yet in fact, there may already be a high level of synchronization between them that they were not aware of during the normal intervals. At this time, because there was a more dramatic strain or tension resulting in a more distinct and obvious resonance or spike in agreement, and perhaps a particularly keen one, it might be believed that the cause was telepathy. In reality, however, it may really be only that it was a deviation, or perhaps better, a peak, in relation to the normal somewhat habituated or “mindlessly” experienced synchronous aspects of everyday life.

This example describes what would resemble something closer to a resonant synchronistic effect and an optimal sort of peak experience, rather than direct telepathy itself. At these times, there may be a heightened or enhanced experience and perception of a natural underlying synchronous property and coherence between people, groups, and the surrounding environment. Additionally, this might also appear sometimes in dreams, in which there is a similar attempt to gratify the same needs and wishes, albeit in a symbolic way. It is suggested that this would be the correct interpretation of effects resembling telepathy: they may be incompletely interpreted fluctuations from a mean level of synchronous and coherent behavior.

VI. Discussion

Individuals may undergo approximately simultaneous changes in their emotional and cognitive states in a coherent way (Haas, 2010b). The net charge state of socially paired and “synchronized” brains may change approximately simultaneously, and this may occur when they are together or separated. The process represents a kind of social synchronization and coherence, much like two clocks separated in time and space that undergo changes approximately simultaneously. This has been most commonly called a synchronicity, when the causal relation between one individual with another or an external event is not immediately obvious and rationally known (Cambray, 2006). Nonetheless, there may still be causal connections that are unavailable to conscious awareness that determine and guide the outcome of interactive behavior in a coherent way; and that coherence could also be contributed to by causal factors in the larger environment. Further, it may also be considered that when states of mind change “simultaneously,” this actually does include some information and knowledge about what the other person may be thinking or feeling, because the emotional drives are matched and supposedly complementary.

Much of this is expected to be dependent upon basic bulk (statistical) biochemical and electrochemical changes that occur in the brain. Therefore, the

subjective psychological and neurochemical experience of such simultaneous thoughts and actions that are so telepathy-like would seem unlikely to be physically identical to quantum entanglement in their mechanism by being two perfect quantum bits. At present, it is difficult to see how the human brain would act as an antenna to transmit and signal even a statistically summed effect, although the possibility cannot be completely ruled out. It is still difficult to see how complex macroscopic psychological events and the events of perfectly coupled photons or electrons in quantum entanglement are commensurable and corresponding to each other. The complex macroscopic phenomena of psychology are determined by gross biological drives and vast networks involved in cognition, human feelings, and other functions of the body. However, at the very least, the conceptual mechanistic basis between entanglement and synchronistic effects is highly analogous: two objects change their states simultaneously in a correlated way in different locations without an obvious cause. Thus, there may be important heuristic insights to be gleaned from the quantum mechanical concept. The concept of entanglement, and telepathy, are to some extent related to synchronistic effects because there are psychologically correlated changes between the two objects in a form very similar to the phenomenon in physics in which information appears to be simultaneously exchanged.

It may be that humans routinely undergo a constant process of synchronistic behavior and even what might be considered a form of quasi-telepathy. Individuals may come to similar and complementary states of mind in an independent but coordinated way with others on a regular basis. In fact, it is almost as if knowledge has actually transferred between them. Thus, it may be possible, to a reasonable extent, to know another's thoughts and feelings beyond the usual expected level, either when together or separated. As described, much of this can go on beneath ordinary awareness through unconsciously based processes, through inference and implicit processes, as well as by social entrainment and coordination. People may be highly entrained and coordinated, and much knowledge about opinions and feelings may be inferred or

predicted and become consciously evident at various wanted or unwanted times.

However, much of the time a baseline or equilibrated level of coherence may be taken for granted. The experience of what may in fact already be a ubiquitous form of telepathy-like and synchronistic behavior may barely be perceived or known to exist at all. Rather, in normal habituated consciousness, in what might quite appropriately be called a mindless state (Langer, 1989), people may live their lives in a satisfactory and functional way on an "automatic pilot." The unique sense of an important and intriguing coherence may be overlooked. Pairs and groups of individuals must operate in an organized and cooperative way, and much of this successful and effective intersubjective behavior depends on some amount of orderly mutual alignment, agreement and bonding. People must constantly think and do things together at the same time. Unfortunately, however, this is often not considered to be anything but our usual mundane relationships with others, even though there may be a considerable amount of "resonance" or complementary agreement of mental states. It would then seem to be only at times diverging from this mundane existence that extraordinary experiences seem to appear.

It is the normal background state that I would now call an "equilibrated non-equilibrium," in a useful physical scientific way. At times of delay in gratification or over satisfaction, some individuals may become acutely aware of an underlying equilibrated order. Individuals may become particularly attuned to the usual background, perhaps more extremely when they are proceeding through a period of psychological struggle or heightened personal growth (Williams, 2010). As Freud would have believed, fitting well with his description of the dream as a "symptom" (Freud, 1899), it is at times of greater mental disturbance when the residue of daily or past experience appears as a neurosis or dream. Individuals may perceive more aspects of an underappreciated equilibration at the times when they are driven by a disturbance above or beyond a "baseline" normalized level. It is at these times of significant change when the experience of a noteworthy synchronicity or

a memorable dream may occur, beyond the average state of “sleep.” Most dreams are probably not truly telepathic, and only infrequently are they indeed premonitions that come true. It is the occasional ones that do come true that may be akin to the conscious times of accurate judgment about when someone else may be thinking something, and they may be like waking predictions that are sometimes correct.

VII. Conclusion

In this paper, it is suggested that there is an underestimated amount of underlying coherence in ordinary experience, which in and of itself may be somewhat telepathy-like. If an individual is effectively attuned to such effects, much of what is considered to be “ordinary” behavior may really be highly synchronistic, and resembles a transpersonal and/or peak experience. Perhaps if this were to be fully comprehended, it would not seem so spooky to receive a phone call or e-mail

from someone moments or hours after thinking about them. If one is socially “in sync” with others and aware of the many reasons why this is likely to occur, then there is less of a reason to find it so surprising. But it may still be a mysterious and beautiful experience. This electromagnetic model of the superego-ego-id and telepathy-like effects could certainly have broader implications. Here, it has been used to explain the deceptive anomaly of telepathy as well as its appearance in states of dreaming. Perhaps it is just such an explanation of an anomaly that will eventually lead to a more universal extension of this theory.

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