

Transparent Dialogues: On Complex Affective Systems (CAFFS)

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Discussing how the study of animal cognition in the ethological paradigm is producing results that show how it is possible to have a more comprehensive understanding of cognition and communication, and how an analysis of the ethological and the Batesonian understanding of cognition and behavior shows it is impossible to remove the fundamental epistemological position of the observer through a definition of information as negentropy, Søren Brier's seminal work can be seen as an attempt to bring forth a new integrative and non-reductionist perspective of the apparent paradoxes of human knowing. According to Brier, paradigms of information are crucial to our understanding of self, consciousness, communication and our relation to nature. From the perspective we present here, the idea of integration, interdependence of observer and observation in quantum mechanics, is essential to understand the continuity in communicational processes involving interdependent informational organizations. Systems that can be described as having a characteristic that couples with its adaptive qualities—affectiveness. From this perspective, that can be in dialogue with the transdisciplinary approach of Brier, they can be understood as “complex affective systems” (CAFFS)—a term coined by the author to describe and discuss certain complex adaptive systems focusing on affectiveness as the main bond between the systems' elements. Working with the idea of affectiveness opens up the possibility to relate the aspect of system's interconnectedness and the ability its elements have of nonlocal communicating, to the phenomena of quantum entanglement. The concept of a CAFFS is an attempt to encapsulate confluent perspectives around transpersonal states of consciousness focusing on the ways we affect and are affected by each other and the world around by means of interacting in a quantum (vibrational) level. Bringing these perspective to discuss the author's artistic practice in the intersections of media art and sciences, implies considering experience in terms of systems of intercreating processes, coupling with visions like the one of Allan Combs, who presents a comprehension of consciousness that incorporates dynamical systems theory and phenomenology, and where the human mind is viewed as a complex dynamic event, constantly engaged in the act of self-creation. If we take our sensory and extra-sensory abilities from a quantum perspective, nonlocal communication is to be considered as a natural phenomenon that depends on the vibrational subatomic qualities of the systems in interaction. As emergences from processes through which the author is exploring these ideas, the author's recent works embody in the systemic configuration of the “Subtle Apparatuses for Nonlocal Affectiveness” (2013–2015); solo exhibitions by the author), reflections that can be understood as incursions on the subtleties of informational processes in a quantum level. By means of the author's approach in the above mentioned series, apparatuses are not taken as external forces that operate on bodies from the outside but as material-discursive practices that are inextricable from the bodies that are produced. In this experimental project, recently exhibited in Los Angeles (2014) and Shanghai (2015), the author invites to think about humans' affective dimension from a semi-material and non-local perspective. Traveling through the touchable and the untouchable, exploring the power of observation in the creation of the cross-scale realities we inhabit, the series illustrates how, by actively integrating CAFFS, we can explore realms where we are neither waves, nor particles, or may perform both, simultaneously.

Keywords: complex affective systems (CAFFS), art and science, observer-observation relations in quantum mechanics, non-locality, subtle apparatuses for nonlocal affectiveness, quantum entanglement, black boxes.

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1. Introduction: Vibrational; Transparent.

We are trapped in our own selves. This is Wittgenstein, again. But we believe we communicate. How can this be? (Glanville, 1997, p. 4)

Quantum mechanics suggests that there are radical limits to our conception of the logical space of events as Boolean. Parapsychology suggests that organisms acquire information in ways not warranted by current theories of information regarded as the negative of entropy. The breakdown of the classical logic of connectivity in our scientific description of the world is of strategic importance for some novel and radical reassessment of the status of life and consciousness in the universe. (Chari, 1975, p. 80)

A member of The Society for Psychical Research,² founded in London in 1882, a Nobel Laureate, Henri Bergson, was about to publish the English translation of his book *L'Energie Spirituelle* when the war broke out and interrupted the work. The title in English, *Mind-Energy* (1920), recalled the idea encapsulated in the title the mathematician and philosopher William Kingdon Clifford used to denote a new theory of consciousness in a lecture many years before the publication of Bergson's volume *Mind-Stuff*. According to Clifford, in his considerations about the idea, "A moving molecule of inorganic matter does not possess mind or consciousness; but it possesses a small piece of mind-stuff. ... When matter takes the complex form of a living human brain, the corresponding mind-stuff takes the form of a human consciousness, having intelligence and volition" (Clifford, Stephen, & Pollock, 2011, p. 85). For Bergson, who in a work that preceded *Mind-Energy*, *Creative Evolution* (1911), matter is the inverse of consciousness (Bergson, 1975, p. 23). He compares at some point our visual consciousness and the perceptual matter it apprehends:

In its briefest moment consciousness embraces thousands of millions of vibrations which for inert matter are successive; if matter were endowed with memory, the first of these would appear to the last in the infinitely remote past. I experience a succession of visual sensations each of which is the condensation of an extra-ordinary long history unrolled in the external world. There are then, succeeding one another, billions of vibrations, that is a series of events which, even with the greatest possible economy of time, would take me thousands of years to count. (Bergson, 1975, p.21)

Bergson's philosophy emerges in a time where intellectual discussions took a strong metaphysical character, pointing sometimes for a confluence between apparently distinct fields as the recently born quantum physics and psychical research. From those generations on, we are still digesting the fascination with a duality that says the same existent (quantic) entities can be expressed or, can behave, as waves or

2. The period of the constitution of the Society for Psychical Research in London was, as reported by Zofia Weaver, "a time of intense intellectual ferment and uncertainty, with natural sciences making great strides in explaining the world in terms which challenged the traditional, religious views. At the same time, since the 1850s, there was a virtual explosion of extravagant paranormal claims and interest in them, in all strata of society throughout the Western world, related to the spread of the new religion of Spiritualism." (SPR, 2015) Nowadays, a time where parapsychology has become an academic subject, with postgraduate courses offered at a number of universities around the world, the Society in London continues to promote and support psychical research.

as particles. And how this understanding can be translated into philosophical reflections about, as an example, mind and matter, about consciousness? And how can all these discussions, when dialoguing with some very influential ideas about *Control and Communication in the Animal and the Machine* (Wiener, 1965) inspire the emergence of a way of thinking we can call, among a myriad of other emergencies, cybersemiotics? All this draws a line straight ahead to the past, to the Greece of Aristotle and his considerations in *On the Soul* (1952b) and about prime matter in his *Metaphysics* (1952a). Investigating the very nature of the soul, Aristotle (1952b, n.p.) argues at one point that “in general, we may ask, why has not everything a soul, since everything either is an element, or is formed out of one or several or all of the elements? Each must certainly know one or several or all.” The problems regarded to the nature of the soul—a philosophy of mind—are intertwined in Aristotle to the proposition of a physiological theory of perception. His reflections on the senses and the mind played a seminal role for the debates which continued throughout the 2400 years since his time. Aristotle believed that we perceive things indirectly, through a sort of medium: the *transparent*. In the philosopher’s words, “by ‘transparent’ I mean what is visible, and yet not visible in itself ... of this substance light is the activity—the activity of what is transparent so far forth as it has in it the determinate power of becoming transparent” (Aristotle, 1952b, n.p.). According to Aristotle, when an animal perceives an object, the sense organ (in the case of visual perception, the eye) takes on or actually becomes like the form of the object it perceives: an idea that implies a continuity between what is actually perceiving and what is perceived; an idea that implies the observer is not detached from the observation, instead, it is intimately interconnected; an idea that can be considered as having conceptual affinities to the descriptions of the phenomena of *quantum entanglement*. On this subject, Professor Demetra Sfondoni-Mentzou, head of the Interdisciplinary Centre for Aristotle Studies in Greece, discusses Aristotle’s theory of prime matter (Sfondoni-Mentzou, 2000). She suggests we take into consideration Aristotle’s writings, on the one hand, and contemporary findings in quantum physics, particle physics, and cosmology, on the other, to consider how to consider that prime matter, “far from being an ‘empty concept’, a ‘clothes horse’, a ‘flat stuff’, can be shown to have its analogue in the picture of matter emerging in the new physics of our century” (Sfondoni-Mentzou, 2000, p. 257). Nevertheless, the researcher makes it clear it is not her intention to support direct similarities between Aristotle’s view of the natural world and the view of the world prevalent in contemporary fields of physics but to “shed light on existing analogies” (Sfondoni-Mentzou, 2015, n.p.). It is on the ideas of potentiality and actuality that Sfondoni-Mentzou structures her arguments, recalling the vision brought by names such as Heisenberg, to show how Aristotle’s perspective can be in dialogue with the wave-particle duality in quantum mechanics and could help us understand that this dualism is much closer to our intuitive experience of nature (including ourselves). In Heisenberg’s words, quoted by Sfondoni-Mentzou, “if

one considers the word ‘state’ as describing some potentiality rather than reality—one may even simply replace the term ‘state’ by the term ‘potentiality’—then the concept of ‘coexistent potentialities’ is quite plausible, since one potentiality may involve or overlap other potentialities” (Heisenberg, 1971, p. 159; quoted in Sfondoni-Mentzou, 2015, p. 253). It is from this understanding that we intend to build here an argument on the prime nature of communicational processes and its nonlocal nature.

2. Instantaneous

Of becoming we perceive only states, of duration only instants, and even when we speak of duration and of becoming, it is of another thing that we are thinking. Such is the most striking of the two illusions we wish to examine. It consists in supposing that we can think the unstable by means of the stable, the moving by means of the immobile. (Bergson, 1911, p. 273)

As it is imbedded in the above assertion from his *Creative Evolution*—of duration (we perceive) only *instants*, Bergson, when reflecting on the nature of consciousness and how it relates to time considers that, for consciousness, there is no present moment. Consciousness as he proposes, can be seen as a sort of processor dealing with past and future: “To retain what no longer is, to anticipate what yet is not,—these are the primary functions of consciousness” (Bergson, 1975, p. 8). Starting a reflection from Bergson’s assertions, and considering quantum entanglement as a factual communicational phenomenon, we can formulate a hypothesis where consciousness has not the mathematical or mechanical conceptual nature of a processor, as he proposes. Consciousness can be seen as something even more subtle and transient: as an emergence from a cross-scale perception that reverberates in each one of the infinite number of scales even yet to be explored. It reflects in our consensual macro scale mainstream world of perception as sequential and multilayered, continuous and indifferentiable *serendipity tides*. Consciousness as ongoing derivations from combined/superposed subatomic particles’ entangled states in complex adaptive systems like us—plurisystemic organizations made up of myriads of composite quantum systems, that is, systems that are comprised of at least two subsystems and that have specific correlations between its subsystems. Those are exactly the states that, displaying such non-classical correlations, are referred to as *entangled states*, and, “lead to apparent paradoxes like the famous Einstein Podolsky Rosen scenario that might suggest, on the first glance, that there is remote action in quantum mechanics” (Mintert, Viviescas, & Buchleitner, 2009, p. 61)

Time-traveling from the time Bergson finally published his *Mind-Energy* (Bergson, 1975) after the First World War (1914–1918), we can walk just a few steps back and, stopping at the early moments of Quantum Mechanics, find ourselves delighted with De Broglie’s pilot wave construct (1926) that generated non-local effects when applied to systems of more than one particle, by explaining the observed wave-particle duality where the particle is guided by a wave function derived from Schrödinger’s equation. As narrated by Sheldon Goldstein (1996) in an essay where he comparatively discusses two seminal books—*The Undivided Universe* by Bohm and

Basil Hiley, and Bell's *Speakable and Unsayable in Quantum Mechanics*—it was in 1952 that Bohm provided an objective and completely deterministic account of nonrelativistic quantum phenomena through a refinement and completion of de Broglie's pilot-wave model. Despite many researchers having regarded it as philosophically and scientifically unacceptable, a subject plays a central role in every article in Bell's book, and Bohm and Hiley also give it [assume you mean pilot-wave model] considerable attention: **nonlocality [I still can't make this make sense, please explain; is this what they call it? how they classify it? at this point, it's just an isolated noun. In what way do they give it considerable attention? Remains unresolved.]**. As Goldstein (1996, p. 149) asserts, “no physicists have contributed as much to our understanding of quantum nonlocality as have Bell and Bohm.” While Bohm and Hiley (1993) advocate keeping an open mind on the subject, suggesting an intuitive explanation as a perspective, Bell (1987, p. 115) shows that “the very predictions of standard quantum theory provide unmistakable, though indirect, evidence for this nonlocality” (Goldstein, 1996, p. 149). If we follow Aristotle's line of thought when considering that by perceiving an object through vision the observer assumes the form of the observed (Aristotle, 1952a), this nonlocal *in(form)ational* process can, transported and re-interpreted according to quantum mechanics, implies that observed and observer are in some way entangled at a subatomic level. But, what does actually happen when photons become quantum entangled?

Entanglement, “widely regarded as one of the most prominent features of quantum mechanics and quantum information science” (Fickler, Krenn, Lapkiewicz, Ramelow & Zeilinger, 2013) describes correlations in systems of more than one particle that are “stronger than classically explainable” (Fickler et al., 2013, p. 1). Photonic entanglement is widely studied in numerous experiments and it can, use technology, such as triggered *intensified charge-coupled device* cameras, to image in real-time the effect of the measurement of one photon on its entangled partner—as shown in the experiment run by Fickler and his team. The researchers used in the experiment—reported and discussed in the paper “Real-Time Imaging of Quantum Entanglement,” and published in the scientific journal *Nature* in 2013—a combination of the polarization and spatial degrees-of-freedom (DOF) to be able to directly image the phenomenon. Related to investigations in quantum optics and quantum information, the images result from processes where complex structures of single photons are investigated with high spatio-temporal resolution. What specifically happens in the experiment is that, starting with a high-fidelity polarization-entangled two-photon state,

one photon is unchanged; the other photon is brought to a second setup, which transfers the polarization DOF to a wide range of specifically chosen spatial mode. In this interferometric setup, the photons get transferred by a liquid-crystal spatial light modulator, dependent on their polarization (methods), to a hybrid-entangled two-photon state. (Fickler et al., 2013, p. 1)

Being the phenomenon of entanglement responsible for quantum non-locality, the fact that it can be not only mathematically demonstrated but produced and visualized,

brings an idea that was for a long time considered unnatural and bizarre to the scope of our everyday-life phenomenology. While it could sound dangerous to propose any direct correlation between the quantum subatomic world and our conventionally macroscale experience of reality, the movement is not new and has been the subject of several research projects and conferences for more than a century. The possibility of this transposition or intimate interrelation was deeply discussed and promoted by a viscerally transdisciplinary field: parapsychology (psi). Researchers that promoted a cross fertilization between areas as cybernetics, information theory, theory of perception, quantum physics, psychology, to mention a few, discussed non-locality in macroscale and the ways we can communicate (acquiring knowledge about someone or something) despite geographic distance without the use of any channel or language.

Complex Affective Systems (CAFFS)

Affect: to have an influence on someone or something, or to cause a change in someone or something. (Cambridge Advanced Learner's Dictionary & Thesaurus, 2015)

The concept that we intent to weave here, the one of complex affective systems (CAFFS) is an attempt to assemble different but confluent perspectives around transpersonal states of consciousness focusing on the ways we affect and are affected by each other and the world all around. The idea of a CAFFS is a methodological strategy to describe and discuss certain complex adaptive systems focusing on affectiveness as the main bond between the systems' elements, relating this aspect of system's interconnectedness and the ability its elements have of nonlocal communicating, to the phenomena of quantum entanglement. Coupling with the characteristic adaptability of a complex adaptive system, affectiveness, could be seen as a bridge-concept that helps connect the subatomic and the macroscopic world of events.

The idea of a CAFFS has affinity with perspectives that present a view of experience in terms of systems of intercreating processes—like the one of Allan Combs, who presents an understanding of consciousness that incorporates dynamical systems theory and phenomenology and where “the human mind is viewed as a complex but surprisingly stable dynamic event, constantly engaged in the act of self-creation” (Combs, Germine, & Goertzel, 2004, p. viii). These ideas can find affinity with the ones of Søren Brier, when proposing to understand consciousness from a combined *autopoietic* and *semiotic* perspective as well.

Beyond the most conventional views, the dialogue that leads to the conceptual venture we are joining here travels through conceptions of mind and consciousness that considers the possible dynamics of extrasensory perception. These conversations emerge in a context in sciences where nonlocal interaction between physical systems has become well known and accepted in quantum physics. In a parallel movement, the study of psi phenomena embraces emerging holistic paradigms about consciousness and the affective dimensions of the self. The most recent artistic incursions of the

author, constitutes an experimental exercise that emerges as a complementary or live explanation for the concept: How does it feel to be part of a complex affective system? How can the experience in an interactive media art installation stimulate the growth of a more attentive consciousness about our natural nonlocal communicational faculties?

For the solo show at the ART|SCI, UCLA CNSI (California NanoSystems Institute) in Los Angeles (June 5th to July 5th 2014), the author presented “Performing Quantum Entanglement: Subtle Apparatuses for Extrasensory Affectiveness,” an exhibition that was conceived to involve the audience in poetic experiences that explore realms where we are neither waves, nor particles, or may perform both, simultaneously. In this experimental project, the author invites us to think about ourselves and our affective dimension from a semi-material and non-local perspective. Four works integrated the exhibition: “The Kiss” (2013-2014, also exhibited in Brazil in 2014 at the festival Continuum, in Recife, and selected to be at Siggraph Asia 2015, in Japan); “NLAFF-Non-Local Affectiveness” (2014); “Owner of a Lonely Heart” (2014, also presented at ISEA 2015, in Vancouver, for the Bioart session); and “Microselfies” (2014). Recently, starting from a collaboration with the Art|Sci member Mick Lorusso for the piece “The Cat’s Eyes Nebula” (2015), the artist produced a solo show as the inaugural exhibition for the Roy Ascott Studio Gallery in Shanghai, China entitled “Subtle Apparatuses for Nonlocal Affectiveness” (February 20th to March 19th 2015) at the Shanghai Institute of Visual Arts, DeTao Master Academy. Integrating the exhibition, together with “The Cat’s Eyes Nebula” (2015), the works “Owner of a Lonely Heart” and “Microselfies” were also installed. Here we briefly present each one of the works, enlightened by the discussions we structured for the present article.

In the interactive video installation “The Kiss” (2014), integrated and interacting by what was defined as a semi-material apparatus, couples were invited to perform a nonlocal kiss standing face to face, on the top of two different silicone platforms where twelve piezo films were placed. The sensors were located in the acupressure reflex points in the planar region of the foot. These points are related to body organs associated to the experience of being in love: the eyes; the region close to the fingers; the heart, liver, stomach, and lung; the region related to the solar plexus; and the lower pelvic organs. According to reflexology, the emotion of love causes the solar plexus to become active—one of the central energetic points in our informational/vibrational being. In the installation, body subtle vibrations are captured by the piezoelectric generators’ network and emerge as interferences in the transparency of the live video—the more balanced the measurements, the less transparent the image become; the less balanced the measurement, the more transparent. The images are captured by two web cameras positioned on the shoulders of the interacting couple. The code, developed in the processing, mixes and interlaces the images. Although the performers are not actually kissing, the kiss is performed in the projection—an invitation to think about quantum non-local connectedness as a property of a quantum mechanical state of a system of two or more objects in which the quantum states of the

constituting objects are linked together even if the individual objects are spatially apart.



Figure 1: *The Kiss* (2014). In the picture, the artists Javiera Tejerina and Diego Ortiz (Photo by Clarissa Ribeiro).

In the installation *NLAFF* (Non-Local Affectiveness, 2014), exploring non-local affectiveness from a poetic perspective, the audience is invited to join a remote staring experiment. For the artist's solo show in Los Angeles, set up in the center of the gallery, a suspended black cube hides the performer (someone from the audience), who is seated on the top of a wooden cubic structure; it is an invitation for meditating. The interior of the cube was illuminated by a red light, a reference to the Ganzfeld technique traditionally used in parapsychology to test extrasensory perception (ESP). From the outside, the audience was invited to focus on staring, looking at the live-feed image of the performer projected onto one of the external faces of the cube. In a superposed layer of the projection, particles generated by an algorithm behave according to the measurements of electrodes connected to the body of the performer. The electrode captures live signals of the electrical conductance of the skin measuring galvanic skin response. The electrical conductance of the skin varies depending on the amount of sweat that is controlled by the sympathetic nervous system. If the sympathetic branch of the autonomic nervous system is highly aroused, then sweat gland activity also increases, which in turn increases skin conductance. In this way, skin conductance can be used as a measure of the way we can non-locally affect each other—entangled interferences in our emotional state.

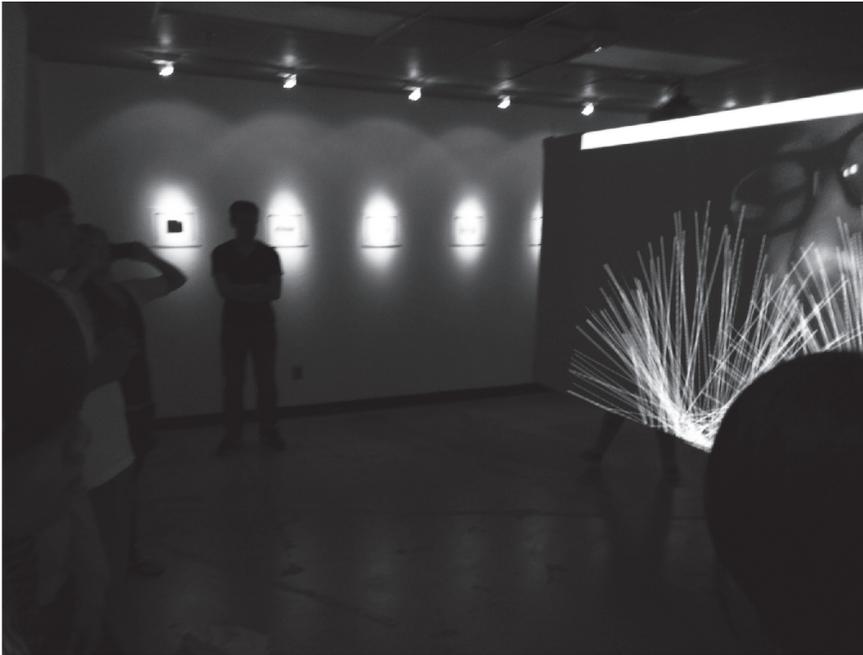


Figure 2: *NLAFF* (2014). Particles behave according to the measurements of electrodes connected to the body of the performer that is being stared at. (Photo by Clarissa Ribeiro).

The subtle apparatuses that integrate the installation “Cat’s Eye’s Nebula” consist simultaneously of a memory and an actualization of possible entanglements between the two artists that were collaborating for its production—the author together with Mick Lorusso. The actual Cat’s Eye Nebula (known by NASA as NGC 6543) is a visual fossil record of the dynamics and late evolution of a dying star, and is one of the most complex planetary nebulae ever seen, captured by the Hubble Space Telescope. The structures of the Cat’s Eye are so complex that astronomers suspect the bright central object may be a binary star system—a bipolar geometry produced by two stars surrounded by cocoons of gas blown off in the late stages of their stellar evolution. The stars that produced the “Cat’s Eyes Nebula” as a memory were in the process of becoming two giant diamonds silently entangled in faraway skies. Installed at the same time in Shanghai, at the Roy Ascott Studio Gallery, and in Los Angeles at the Art|Sci Gallery, the work consists of two rectangular boxes where the complex geometric patterns generated by the irregular reflection of a red laser beam—when crossing a diamond-like prism that moves according to visitors’ vibrations captured by a piezoelectric sensor—are captured by a hidden web camera and sent, via live streaming video, to the other entangled exhibition space. The box is a metaphor recalling the seminal discussion of Erwin Schrödinger about the phenomenon of quantum entanglement (*Verschränkung* in German) in the paper where he presents his thought experiment, the cat in the box paradox. The dimensions of the box and the

proportions are references to multiples of the numbers 5 and 10 (having a hidden 7 as a multiplier); 5 representing the man, 10 representing the whole universe, 7 the magical, supernatural aspect of the phenomenon of entanglement that implies non-local connectedness.

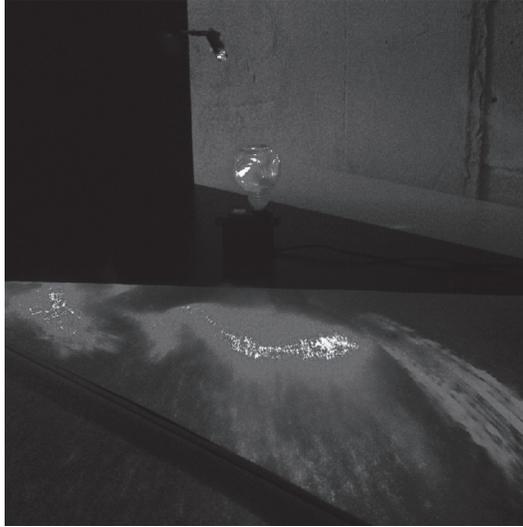


Figure 3. *The Cat Eye's Nebula* (2015), laser beam refraction by a diamond-like prism in Shanghai; coordinated by captured vibrations from the audience, to be entangled with its equivalent in L.A. through live video stream. (Photo by Clarissa Ribeiro).

Final Considerations: Giving Up the Boxes

In several contemporary complex systems, the inputs and outputs are completely dependent on interactions within the system, and their richness comes from their internal connectedness. Give up the boxes, and work with the entire loopiness of the thing. (Varela, 1995, p. 210)

Note that not only is the Black Box constructed by the observer, but the whole explanation is, also. You cannot see inside the Black Box (there is nothing to see: there is nothing there—it is an explanatory principle). Nor can you assert that because you have proposed a working relationship between in- and output, it will always hold. There is no true causal connection, no mechanism. The Black Box embodies Wittgenstein's principles (and pre-dated them by about a quarter of a century). It allows us to handle our ignorance by building relationships and by pretending there is a causal element at work. (Glanville, 1997, p. 3)

Continuing his arguments in the above quotation, Ranulph Glanville (1997) asserts that “To achieve this, there must be communication between the observer and the Black Box (including the in- and output signals)” (Glanville, 1997, p. 3). **Considering that there is communication between the observer and the black box at a quantum, subatomic level and that the observer and the black box are quantum entangled, we can certainly invert Glanville's arguments and say that the observer can (instead of**

cannot in the original) see into it, and there are no limits (instead of *there are limits* in the original) to what the observer can observe.

If we “give up the boxes and work with the entire loopiness of the thing,” as suggested by Varela (1995) in the above quotation, a hypothetical, *transparent entity* can be constructed by a hypothetical, *transparent observer* as an alternative to the construct of a black box, both being elements of a *complex affective system* (CAFFS). In this case, beyond language, the conversation that is going on does not presuppose a medium, a channel; It is instantaneous and nonlocal. There is no observable input; there is no observable output. If there is something perceivable, it is the metamorphic instant’s stream itself, emerging consciousness from cross-scale perception.

Glanville continues his reflection by affirming that:

in a sense, there is no you and me, but the dance of interaction through which we come into being, you and I for me, I and you for you (Glanville, 1990). When we force the interface onto one or the other, we lose the space of interaction, and we lose our freedom and individuality: we become the automata of action/reaction, of the psychologists’ misuse of the “Black Box,” of the confusion of the as if with the as. (Glanville, 1997, p. 5)

It would be liberating if we envisage consciousness as the very emergence from the instantaneity of entangled states in our structural (despite its inherent subtlety) subatomic realm. A realm populated by vibrational entities, luminous, photonic, phantasmagoric. As touchable as our imagination; as powerful as our imagination—a cross-scale phenomenological world where we have no macroscopic segregated senses but this multifaceted perception that leads to the emergence of consciousness from quantum informational processes. Those were the introductory ideas we tried to present here and that are encapsulated in the very concept of what we mean as a complex affective system.

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