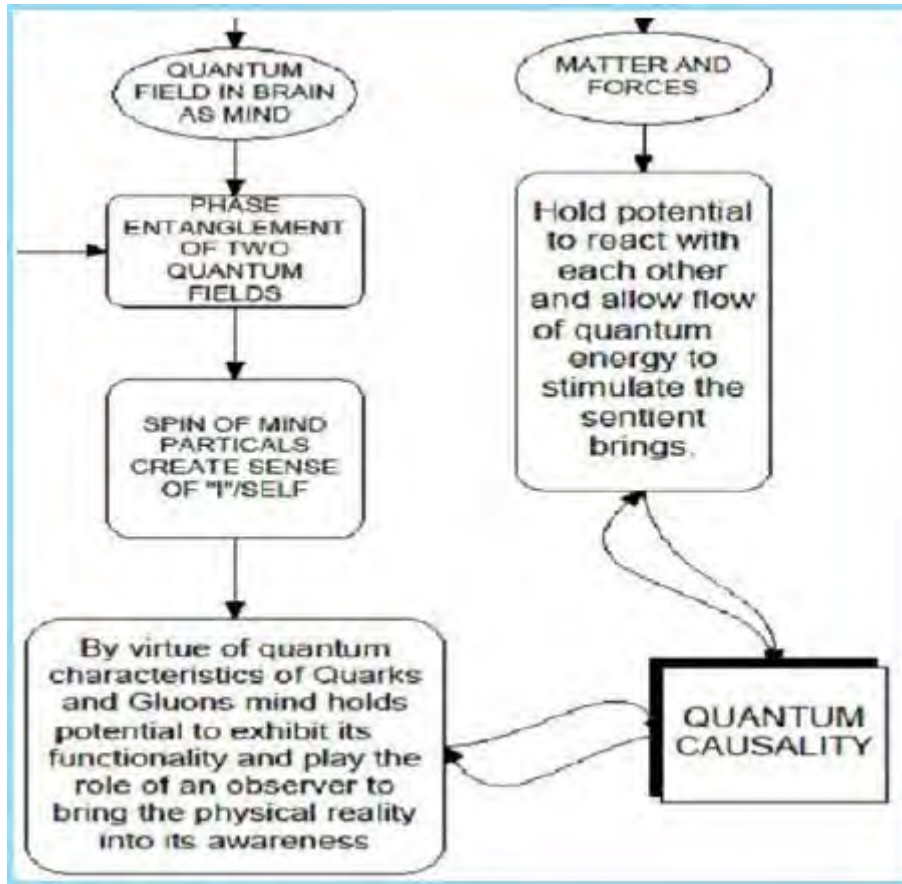


Journal of Consciousness Exploration & Research

Volume 6 Issue 2

Explorations on Quantum Field of Consciousness & Levels of Relative Non-locality



Quantum Fields of Consciousness & the Mind (Part I & II);
On Non-locality I: Relative Non-locality;
On Non-locality II: Quantum Physics & Non-locality;
On Non-locality III: Dimensional Biopsychophysics;
On Non-locality IV: Necessary Conceptualization;
On Non-locality V: More Esoteric Relative Non-locality; &
On Non-locality VI: Immediacy & Hierarchies

Table of Contents

Explorations

Quantum Fields of Consciousness & the Mind (Part I) <i>Rajesh Bhutkar</i>	70-79
Quantum Fields of Consciousness & the Mind (Part II) <i>Rajesh Bhutkar</i>	80-89
On Non-locality I: Relative Non-locality <i>Vernon M. Neppe & Edward R. Close</i>	90-96
On Non-locality II: Quantum Physics & Non-locality <i>Vernon M. Neppe & Edward R. Close</i>	97-102
On Non-locality III: Dimensional Biopsychophysics <i>Vernon M. Neppe & Edward R. Close</i>	103-111
On Non-locality IV: Necessary Conceptualization <i>Vernon M. Neppe & Edward R. Close</i>	112-120
On Non-locality V: More Esoteric Relative Non-locality <i>Vernon M. Neppe & Edward R. Close</i>	121-126
On Non-locality VI: Immediacy & Hierarchies <i>Vernon M. Neppe & Edward R. Close</i>	127-134
Relative Non-locality - Key Features in Consciousness Research - On Non-locality VII: References Cited in Non-locality I, II, II, IV, V & VI <i>Vernon M. Neppe & Edward R. Close</i>	135-139

Exploration

On Non-locality I: Relative Non-locality

Vernon M. Neppe^{*} & Edward R. Close[†]

ABSTRACT

This is the first of six articles that form a unified series examining “non-locality” - a term applied for “beyond time and space”. The authors indicate what non-locality is and why non-locality should have the prefix “relative”, because there are different levels of non-locality, ranging from different dimensions to the infinite. The basic structure of reality is complex and most of existence is hidden from our experience. There is a practical relevance to this in our relatively limited daily life.

Key Words: classification, communication, consciousness research, definition, consciousness, relative, framework, non-locality, space-time, level, relative non-locality, dimension, beyond, infinity.

The Broader Perspective of Non-locality

The term “non-local” is controversial. It is easier to deny even the existence of the non-local. That way we can refer to everything as obeying an ordered series of laws of physics, all within the framework of our experiences of space and time. However, every so often, particularly at the quantum level, contradictions arise. The most well-known event in that regard is the ostensible aberration known as “entanglement” in physics. In this phenomenon, two quantal level particles, although completely separated in space, appear to communicate with each other “non-locally”. Such communications sometimes appear to be “outside of space, or outside of time, or both” and seem to defy common sense.

The term, “non-locality” has become more and more part of the literature^b, but it has also

^{*}Correspondence Author: Vernon M. Neppe, MD, PhD, FRSSAf, Director, Pacific Neuropsychiatric Institute, Seattle, WA; and Exceptional Creative Achievement Organization (Distinguished Professor); and Adj. Prof., Department of Neurology and Psychiatry, St Louis University, St Louis, MO. <http://www.vernonNeppe.org> E-mail: psyche@pni.org

[†]Edward R. Close, Ph.D.. Research Associate, Pacific Neuropsychiatric Institute, Seattle, WA; and Distinguished Fellow, Exceptional Creative Achievement Organization.

Note: The current series of articles are based on several different sources. A major initial source was our book *Reality Begins with Consciousness: A Paradigm Shift that Works (Fifth Edition)* 2014.¹ The chapter motivated the initial idea of relative non-locality and recognized different frameworks.^{2 a} One part of this series of articles has been published in *Explore* March 2015. However, the said part has been extensively rewritten.

become ambiguous as different scientists do not apply it consistently. This is particularly so as it has become “adopted” by a second science besides physics, namely consciousness research. “Non-local” clearly overlaps these two disciplines, but because the cause of “non-local” is unknown, many scientists do not know if they are dealing with different phenomena or the same fundamental principle.

An important aside: In this series, we use our preferential term, “non-locality”. This is based on our preference and the possibly more common usage in non-locality in Consciousness research as contrasted with the possibly more common “nonlocality” in Physics.

In this series, we will show that the term non-local on its own, without any qualifiers, makes little sense. We will know its use conceptualizes a phenomenon or experience as being interpreted beyond our conventional time and place, but the non-specificity of such a description can lead to misinterpretations of entirely different “levels” of non-locality as being the same. Consequently, scientific analyses may be flawed, because phenomena that are not the same — “unlike” experiences— will be mistakenly analyzed together. We will recognize that non-locality is “relative” to an external measure, and that measure is often regarded as from our particular “framework” as living human beings. However, we will know that there potentially may be other ways of interpreting such phenomena based on where we, or an independent observer in space, time and, indeed, consciousness, are “located”—based on which framework we or the observer are experiencing their subjective reality. In that context, we might recognize that much of our current perception of reality is based on our “experiences” and that these constitute only a limited part of the existence of reality.

More specifically, during our regular business of living, we recognize only our *overt* experience, as opposed to our broader *existential reality*, most of which is *hidden*. But, conceivably, this *covert* existence may be impacting on our day-to-day experiences without our awareness of this. We seldom recognize that we exist in a reality of many finite “dimensions”, and, furthermore, that we must make “distinctions” between them to begin to understand their differences and similarities. We theoretically might recognize, too, that there are realities higher than this: so-called transcendent realities in what mathematically is the “countable infinity” —countable in the sense of discrete numbers that go on forever—literally to an infinity. We call this *discrete* infinity the “transfinite”; and we differentiate this from another level of “non-locality” which is the real “infinite” —where there is no discreteness, just a continuity which may pervade literally everything, possibly through a continuous flow of space, time and consciousness which we are calling “gimmel”. We have preliminary data that gimmel is involved with life, multidimensional order, even dark matter and dark energy. Gimmel is the way the infinite communicates with the finite.

^b On an updated Bing search (8 February 2015) combined nonlocality with non-locality producing 140,000 results, yet clearly there is overlap as there are 145,000 hits for *non-locality* and 93500 for *nonlocality*. This delineates another problem with the term: the requirement to search for both “non-local” and “nonlocal” and then to ensure one is not duplicating terms. For “non-local consciousness” on Bing there are 21,800 and 5150 for “nonlocal consciousness”. For “quantum **non-locality**” there are 41,400 vs 31,500 for quantum nonlocality, and “non-local perception” yielded 1640 and “nonlocal perception” 1000. It appears therefore that non-locality or nonlocal in any consciousness sense constitutes less than a third of all uses of “non-local” or “nonlocal”. Possibly the hyphen in non-local is more commonly used overall. For consistency, we use the term “non-local” throughout.

Finally, we recognize the limitations of the term “non-locality”. For example, what is “non-local” is ultimately expressed in the experience of our nervous systems. And our brain certainly is “local” as it is located in a specific area of space and time. We understand that what is “non-local” possibly is only “non-local” for us *relative* to our particular framework of living reality, and may reflect that hidden, covert existence that we don’t directly experience. Therefore, we suggest alternatives by making “distinctions”, and these distinctions in their turn can be evaluated by a complex, though fundamental, mathematical technique called the “calculus of distinctions” (CoD).^c

Our purpose here is to provide a broad non-technical discussion, and though we will mention such technicalities as the CoD and of the various kinds of “quantal non-locality”, this is just for completion and mentioned with only the most basic of details. Therefore, we also provide a way of describing the properties of the non-local and recognize that the most fundamental way to conceptualize “non-locality” is via what we are calling “immediacy”.

What is non-locality?

In the context of this series, we’re using the definition we applied in *Reality Begins with Consciousness: A Paradigm Shift that Works*⁴ namely:

“In both physics and consciousness research, “non-local” (also “nonlocal”) refers to a distant connection of information, apprehension or perturbation. However, this is always “relative” to the observer’s reference frame and perspective, so the term is more correctly “Relative Non-locality”.

There are two formidable terms here: apprehension and perturbation. “Apprehension” is simply acquisition of information, and when this is specific, it refers to “awareness”. It is on the incoming side. “Perturbation” is on the outgoing side, and when it is specific it involves “influence”. We can certainly receive or impact something directly using our usual senses and perceptions and our muscles and movements, and these would include machines, too. But when speaking about “non-locality” in the consciousness context, the “apprehension” elements would be equivalent possibly to *relative non-local perception*, and the “perturbation” components equivalent possibly to *relative non-local psychokinesis*. However, this definition does not emphasize the alternative term in physics, namely *quantum non-locality*.

The quantal use may or may not even be related to “non-local perception or consciousness”, with the focus on the space combined with time elements not being local—instead, non-locality or “action at a distance” is the direct interaction of two objects that are separated in space with no perceivable intermediate agency or mechanism. As Patrizio Tressoldi indicates both contexts, non-local refers to “...*non-local properties... that ...may operate beyond the space and time*”

^c The Calculus of Distinctions (CoD) applies well-defined logical and mathematical operations involving the drawing of distinctions. Distinctions constitute the most basic concept underlying all logic and mathematics. There are several levels of distinctions in CoD of pertinence.

constraints of sensory organs." ⁵ We suggest that one application of the term "non-local" has been to move away from materialist reductionism: In the same way as the physicist may regard "entanglement" as synonymous with or exemplifying non-locality in physics, the consciousness researcher may regard "psi" as synonymous with or exemplifying non-locality in their discipline.^d

The most common current related phrases in physics are "quantum non-locality" and "entanglement". ⁶ However, this paper focuses on the second discipline at this point, a statistically less common use ^a, namely non-locality in Consciousness Research where terms like "non-local consciousness" and "non-local perception" are sometimes used as preferred synonyms for "psi" or for "extrasensory perception" (ESP) ⁵. There are, indeed, now many who use "non-local" as a prefix to substitute for many different kinds of psi phenomena. ^{7, 8} Therefore, "non-locality" could just reflect ways to wrap up the same controversial animal in a fur coat: it could be a different way of describing another term for ESP, or for psi, or for parapsychology, as these latter terms may not currently be in fashion.

Why we argue for *relative* non-locality levels: The structure of reality

We maintain there are different levels of non-locality. This is based on, inter alia, our extensive work ⁹, and consequently non-locality involves a much more complex concept than simply saying this is "local" and this is "non-local" in absolute terms. The purpose of this paper is not to *prove* existence of the different levels. Instead, we want to *theoretically* conceptualize the possible levels and kinds of non-locality more accurately. For example, is every psi experience and other conceptually related phenomena, such as out-of-body experience, near death experience, or survival after bodily death, happening at the same conceptual (possibly "non-local") level? And if not, is the highest level (such as a postulate of the "infinity of infinities" that some would say involves a "divinity") in this model still even experiencing non-locality? Furthermore, can we theorize on what might exist, and in what way the differences in levels are pertinent?

Beyond:

Non-locality is sometimes understood as only "beyond" space and time. In a sense it is, in that it goes *beyond* the space and time constraints the observer is used to, so it is relatively "beyond". But more correctly, "beyond space and time" may be an incorrect conceptualization, as "beyond" already implies that "it is beyond, relative to some level".

Discrete and continuous levels of reality:

Instead, one could hypothesize that at a conceptually "higher level", the observer could experience everything *relatively* locally at that level and below—rather like looking into a box from the outside. The authors regard non-locality as hierarchical and some complex math derivations support the existence of such a hierarchy. ⁴ One such concept implies *levels of discrete* dimensions. At the highest level is the so-called "transfinite" —Cantor's "countable

^d Psi is a composite term used for extrasensory perception (ESP) and psychokinesis (PK); layperson terms are psychic, paranormal, anomalous and sixth sense; it is part of parapsychology.

infinity”¹⁰: Even this transfinite still remains “discrete”—it’s in quanta: in pieces; it’s like “bits” in computers, or pixels as in monitor screens. It looks continuous but that’s only because our sense organs cannot detect such small components. Essentially, even this highest level—the transfinite—is still “discrete”. Yet, all of these *discrete* levels—the various dimensions of which our three spatial dimensions (length, breadth, height) in the present moment of time (called “3S-1t”) through to the transfinite are all contained in—“*embedded in*”—the broader “*continuous infinite*” making up a single reality.⁴ At the highest level of that “*continuous infinite*” would be the “*infinity of infinities*” as Georg Cantor¹⁰ mathematically conceptualized it. The infinite is a continuous, limitless, unbounded, without end subreality in Space, Time and Consciousness. The infinite subreality contains the finite discrete and transfinite subrealities.^{2, 11} This is why it is important when discussing non-locality.

“Experience” and “existence” are different:

Below these very high levels, there appear to be different levels of non-locality. This includes even non-locality in some of (what we are argue are) the first 9 dimensions¹²⁻¹⁵. Up to 5 of these 9 are usually *hidden*: This is because we living beings only usually *experience* the first 4—the 3S-1t. Most of the time, we do not even realize there is more to reality than just our experience of 3S-1t. It is these first four dimensions that most scientists applying the standard models of physics regard as “*all of reality*”, “*all of physics*” and “*all of what exists*”. Yet, the authors dispute that 3S-1t is “all of reality”; instead, it’s simply just “all of what we experience”, because we have mathematically demonstrated that there are 9 finite discrete spinning dimensions. We argue, furthermore, that there are also higher levels of reality, as well, namely, the still discrete “transfinite” and the continuous “infinite”.

Language

Even if it might be that these consciousness research terms overlap with some of the non-local terminology of physics, we would then need to delineate which ones of those several possible concepts of non-local in physics^{6, 16, 17} overlap with those used in consciousness research? It’s like putting a good portion of mathematics or the English language, or for that matter parapsychology, into one word and using it specifically as if all components are the same. We have to be precise. Indeed, we must ensure that “like corresponds with like”, and that we do not cluster “unlikes with the likes”.⁶

The analogy of top-down and the bottom-up box

This means that an “observer” experiencing events at each of these levels, effectively is observing space and time “top-down”, and what is below that dimensional level is usually (but not always) *experienced as* “local”. This is why it’s like observing that box from the outside—we’re directly experiencing the many dimensions below, but we may not always necessarily be able to see everything inside that box and that’s why it’s not always “local” in space and time: There may be parts that are *translucent*—the wall of the box, the thick atmosphere—and not transparent.

Conversely, looking up, from inside a box, so to say “*bottom-up*”, “non-locality” would be a consequence for any higher level than the *observer’s experience*.⁴ Most scientific methods apply data only from the “*bottom-up*” and such analyses make higher dimensional analyses much more difficult. The “*bottom-up*” approach begins at the information and meaning we have in the few pieces of what could be understood as a 3S-1t jigsaw puzzle and we dimensionally “extrapolate” upwards. The bottom-up approach is much more limiting and it is much more difficult to think outside of the box (and we regard that as “non-local”) than the top-down approach, which at its highest level pervades the infinite subreality. The bottom-up and top-down approaches are critical in the mathematics of what we’re calling “Dimensionometry” (multidimensional geometry) which involves moving across dimensions by “Dimensional Extrapolation”. Therefore “non-locality” can be potentially tamed mathematically, particularly if the emphasis is not on “beyond space and time” but instead if we begin to understand distinctions at every level applying the appropriate mathematical calculations (like the “calculus of distinctions”).

Given that the observer experiences reality from the framework of his own locality, all experiences would be from the framework of the observer. Relative to the observer, going from the bottom-up, anything higher would be non-local: *It’s not in reality “beyond” because it still exists, it’s just experienced as beyond.*

We argue that we need to have a theoretical model for such local and non-local events. In this paper, we provide that theoretical model. Sometimes, there is empirical supporting data for these ideas: Our conceptualization of nine dimensions is based on mathematical derivation^{9, 12, 14, 18}, and illustrates one important base for arguing beyond just 3S-1t existing.

Perspective describing this article

Taking these factors into account, we describe:

- Two related but conceptually different terms “*relative to*” and “*from the framework of*”.
- We utilize a hierarchy of non-localities. We justify this hierarchy in the book *Reality Begins with Consciousness*⁴.
- We indicate the cardinal aspect of what makes an event “non-local” namely its *immediacy*.

In this paper, we’re using the term “non-locality” in the context of “Consciousness Research”. This may be different from the many varieties of “non-locality” in physics or there may be areas of overlap. However, this is outside the scope of this article.

Practical pertinence of non-locality

Our day-to-day 3S-1t:

Our day-to-day experience is one of experiencing our physical reality—the length, breadth, and height of objects. These three dimensions of Space (3S) change with every new moment in time

because that moment reflects only the “present” (1t) in our one directional time-line of past, present and future (1T). Our *present experience* reflects the first four dimensions (3S-1t). But that reflects just our limited *overt experience* of reality. We do not know about any *covert* components of reality that might exist: Obviously we’re at 1t, not at 1T as we don’t know even the future in the next few seconds, and can only remember our past in our Consciousness.

Our broader existence:

But we argue that even with this overt experience of 3S-1t, we also *necessarily exist* within a far broader reality of higher dimensions, the transfinite and the infinite, but we can seldom experience these extra components in our usual conscious living state.⁴ This may be one reason why the term “non-locality” is used—to describe what appears to us to be “non-local”.

(Continued on Part II)

References (See Part VII)

Exploration

On Non-locality II: Quantum Physics & Non-locality

Vernon M. Neppe^{*} & Edward R. Close[†]

ABSTRACT

In this second article of the six-part series, we discuss the role of physics and quanta in non-locality and indicate that these models are diverse, not just entanglement but there are at least nine other models. We introduce the idea of a global term “relative quantal non-locality”. These ideas provide a perspective to understanding non-locality in consciousness sciences. There may or may not be commonality as both models are diverse. We define consciousness. We also discuss Kafatos’s three-tier classification and show how it can be integrated into levels of the relative non-locality model. We emphasize the need for a broad classification of non-locality.

Key Words: quantum physics,, discrete, entanglement, consciousness, relative, framework, non-locality, space-time, level, relative non-locality, dimension, beyond, infinity.

Physics and non-locality

Something is missing when trying to explain the well-documented, so-called strange Einsteinian “spooky action at a distance”^{19, 20, 21, 22}. Einstein recognized the “entanglement” phenomenon in physics, where quantum state particle pairs or groups interact such that the quantum state of each particle cannot be described independently, but must be given for the *system as a whole*—metaphorically they “*talk*” to each other at great distances²³⁻²⁵.

We now discuss so-called quantal non-locality briefly. Certainly, the most well-known current related phrases in physics are “quantum non-locality” and “entanglement”. But there are other kinds of quantal non-locality. Do not be concerned about all the technical terms. Please just regard the Table 1 and the lines that follow simply as an introduction to the diversity of the different terms. Importantly, these models are diverse, and do not consist just of so-called “entanglement” but there are at least nine other models.

Table 1: Listing of different kinds or postulated mechanisms of non-locality in physics

- | |
|---|
| <ul style="list-style-type: none">• Entanglement.^{23-25 26-28}• “Non-local Aharonov–Bohm effect”²⁹.• “Non-local Lagrangian”³⁰. |
|---|

^{*}Correspondence: Vernon M. Neppe, MD, PhD, FRSSAf, Director, Pacific Neuropsychiatric Institute, Seattle, WA; and Exceptional Creative Achievement Organization (Distinguished Professor); and Adj. Prof., Department of Neurology and Psychiatry, St Louis University, St Louis, MO. <http://www.vernonNeppe.org> E-mail: psyche@pni.org

[†]Edward R. Close. Research Associate, Pacific Neuropsychiatric Institute, Seattle, WA; and Distinguished Fellow, Exceptional Creative Achievement Organization.

- “Non-local generalization of the London’s equation” including now the non-local kernel proposed by Pippard^{31, 32}.
- Field Theory^{33 34, 35}.
- Wheeler’s Quantum foam^{36-40 33} and Wheeler Feynman Absorber theory^{41, 42}.
- Emergence of the Universe^{43, 44 45, 46 47}.
- Stapp⁴⁸⁻⁵⁰.
- Bohm’s work⁵¹.
- Elements of Einsteinian special relativity^{36-38, 52}.

We could call this “non-locality” Relative Quantal Non-locality (RQNL), remembering that we are not talking about just one potential kind of RQNL.

Quantum non-locality⁵³ refers to quantum mechanical predictions of many-system measurement correlations that cannot be simulated by any local hidden variable theory. These refer to the main Physics use of non-locality, namely entanglement^{23-25 26-28} seen as synonymous with “quantum non-locality”.

These descriptions and concepts are complex and so we enumerate them in Table 1 only to show that there are many other kinds of non-locality in physics.

RNL in Physics

In physics we could use a global term such as “*Relative quantum non-locality*” (RQNL) (relative to 3S-1t framework, but not categorized or categorizable in psi terms.) Importantly, as discussed below, it is unlikely that there is only one RQNL, because there are several different theoretical models.

Non-locality is applied in many physics contexts. The sheer wealth of theories, models or data on non-locality in physics, attests to its possible complexity and the likelihood that one is not dealing with a single phenomenon.

John Bell coined the term “non-locality” in physics⁵⁴. In physics, *non-locality* is regarded as action at a distance: It is the direct interaction of two objects that are separated in space with no perceivable intermediate agency or mechanism (which is why it is “spooky”)^{21, 22}. Quantum non-locality⁵³ refers to quantum mechanical predictions of many-system measurement correlations that cannot be simulated by any local hidden variable theory. These refer to the main Physics use of non-locality, namely entanglement^{23-25 26-28} seen as synonymous with “quantum non-locality”.

These descriptions and concepts are complex and so we enumerate them in Table 1 only to show that there are many other kinds of non-locality in physics.

Non-locality in Consciousness

Perhaps the most well-known link with non-locality in Consciousness Research possibly linking psi and physics is the phenomenon of “entanglement”. Indeed Dean Radin, entitled his book on psi as *“Entangled Minds”*⁵⁵ and sometimes, consciousness researchers refer to “quantal entanglement” as supporting the consciousness linked “relative non-localities” we’ve discussed. But entanglement is a different concept: entangled quantum states produce such correlations when measured^{23, 27, 28, 56, 57 26-28, 57}, as demonstrated by Bell’s theorem^{54, 58, 59}. In Quantum Physics, this is the linkage of ostensibly separated energy packets, particles, or photons in time and space manifesting at the 3S-1t level.⁴ Bell, in fact, recognized that there may be a further commonality in non-localities and also how complex interpretations can be:

*“Perhaps experimental parameters and experimental results are both consequences, or partially so, of some common hidden mechanism. Then the apparent non-locality could be simulated.”*⁵⁴

One or more of these may or may not turn out to be the same relative non-locality that has pertinence in psi. But these ideas in physics are not our focus here. This is particularly so, as these concepts might turn out to be very different from “non-locality” in consciousness research, but they show that even in physics, “non-locality” is not a singular term with one consistent meaning, and is not regarded by different theorists as arising from the same phenomena or causes.

Similarly, we should certainly try to understand psi phenomena —so-called extrasensory perception and psychokinesis, and even more extremely, the possibility of survival after bodily death. We argue that the easiest way to explain these is by accepting the existence of higher dimensions.

Consciousness: the concept

Consciousness has traditionally been the most difficult of all terms to describe and its everyday use has varied. Given that we’re differentiating relative non-locality in two major contexts, Physics and Quantal compared with Consciousness Research, it behooves us to define consciousness. The everyday use of the concept of “consciousness” has led to different interpretations sometimes due to specific specialties conceptualizing it in specific ways, and has made its unification difficult.

We recognize that to communicate the broad range of Consciousness (C), as a unified concept, and as a general unitary term across the infinite and finite, we have to phenomenologically classify it. This we have done with our TDVP model^{9, 12, 15}, and we can apply our new EPIC classification to “non-locality” too. Consciousness involves four key phenomenologically different classifications: the “EPIC” components —Existential C, Paradigmatic C, Information-meaning C, Cybernetic C. Yet each component can be applied to every description of C.

This we have done elsewhere in detail.^{60 b} We attempt to provide for the broader concept of Consciousness applying a multi-pronged “EPIC” approach:

We recognize a major theme of this paper, what “exists” as opposed to what is “experienced”: This is the E of EPIC: The *Existential “distinctions”* of Consciousness further subdivided into “extent, content and impact distinctions”: The extent substrates include the measurable ordinal-level Consciousness dimensions tethered, as indicated, to the measurable often interval-level Space and Time dimensions; the *content matrix* reflects the “Consciousness container” comparable with mass- energy containers, at all physical finite levels as well as even (a difficult concept) the infinite level. The third distinction is critical *Consciousness impact*: where Consciousness impacts and influences the container and the dimensional elements.

The P is for Paradigmatic levels of Consciousness: We recognize that Consciousness involves a four-level gradation. These four levels are all applicable to living humans, but in the non-locality context can be from a different “framework” as well, as in, for example, near-death experiences.

- *Qualit Consciousness*: the most basic consciousness (Qualit) level always exists in *everything* inanimate or animate as everything contains the *most fundamental discrete finite physical meaning*. Qualits are quanta plus meaning. Here we are discussing Quantal Non-locality.
- *Neurobiological/ Neurological Consciousness*: the endpoint nervous system expression of all living (animate) beings. They have awareness and responsiveness.
- *Psychological Consciousness*: involving humans and animals. The psychological is disputably partly separated from the neurological. In these we’re discussing what may be misunderstood as non-local but involve psychological and neurological elements.
- *Higher Consciousness is the final level which is* disputably outside the brain: This might involve dreams, meditation, creative, transcendent, psi and altered *states (and these may involve a dimensional non-locality)* plus mystical, infinite and transfinite elements (again as we will see, higher levels of non-locality).

The I of EPIC is *Information* which is general and converted to *meaning*: Infinitely large repositories of general information are expressed as direct targeted, specific meaningful information.

The C of EPIC is *Cybernetic* consciousness communications: This provides a mechanistic input, central and output model, applicable to any consciousness models like stimulus-organ-response, dendrite-neuron-axon, or stimulus-brain (central)-motor. In non-locality, we examine the specific and the general and the description may not just be at the receiving level, it may impact and be impacted.

The four EPIC prongs are always applied together, reflecting the unification of consciousness in its broadest general applications. They suggest a unification of all kinds of Consciousness, which in this series, we may make clearer for some examples, with the introduction of the term “gimmel” allowing for the major component of infinite flow from the infinite of a consciousness,

^b <http://medcraveonline.com/JPCPY/JPCPY-01-00036.pdf>

linked with its tethered mass-energy elements to the finite and integrating therefore all levels such as quantal through to the cosmological.

The applications of non-locality in physics to consciousness research: Kafatos

Interestingly, Isaac Newton in 1692 regarded action-at-a-distance as *"so great an Absurdity that I believe no Man who has in philosophical Matters a competent Faculty of thinking can ever fall into it"*.⁶¹ But times changed clearly (as in Table 1).

There may be one area of commonality in our classification of Non-locality in Consciousness Research, namely the theoretical model as in the *"Conscious Universe"*^{62, 63} of Menas Kafatos of non-locality in physics. This is so because Kafatos, too, recognized the need to divide non-locality. In his classification, he applied non-locality in Physics into three elements^{62, 63}:

Type 1 is spatial non-locality;

Type 2 is temporal non-locality; and

Type 3 non-locality is both spatial and temporal.

This differentiation into three is logical from the 3S-1t physical framework. It is different from the classification we propose below, because it does not recognize different levels but it at least recognizes that Non-locality (he did not describe non-locality as "relative" or involving different "frameworks") can be different depending on degree of space and time, although as in physics, consciousness has been ignored.

However, using the Kafatos classification, we could still introduce consciousness into many of these concepts. For example, if we apply Kafatos's concept into the psi model, we could argue that remote viewing in the present is Type 1 (in Physics possibly entanglement would be). We will see that it is likely in our (Neppe-Close) classification placed as the kind of non-specific non-locality that we simply label "delta" and so is placed within the Relative Delta Non-locality level (our RDNL level). Kafatos describes what is effectively foreknowledge (technically called precognition as his Type 2).

This is equivalent to our recognition of time without space (our RUNL level). We developed this model independently of Kafatos. It corresponds with our recognition of Time along one dimension not only present, but past and future as well so we called that Relative Time Non-locality. The concept of precognitive remote viewing would be Kafatos Type 3. In our classification we would want more detail to classify it more accurately, and without such description just regard it again as Relative Delta Non-locality. From this, we're able to see how limited previous conceptualizations were, but at least Kafatos made an attempted remarkable phenomenological jump.

The necessity for various levels of non-locality in reality

"Non-local" requires the prefix "relative" because it only then becomes meaningful as it has to

be relative to specific parameters. The differentiation is beyond academic: It allows us to appreciate the depth of reality because Space, Time and Consciousness are all terms that have meaning only relative to specific parameters. These terms are not absolutes when we describe finite reality.

Our conventional scientific reality is the consensual basis of what we, as living sentient beings, experience. Therefore, relative non-locality is *from the framework of* our common sentient living experience. We only know of 3S-1t: For us, 3 dimensions of space (length, breadth and height) embedded in a moment in time (the present) is the whole of reality, but it is simply our *whole direct reality experience*; it is *not all of reality* because we already know there are, for example, 9 spinning finite dimensions.

We can see how these ideas promote other examples of different levels of non-locality or apparent non-locality. We can regard a phenomenon as “non-local” yet:

- be mistaken, because we might *misinterpret* reality due to brain impairments or abnormal hallucinations as “real”. That ostensible non-locality would be “*pseudo*”;
- we could argue that sometimes our “consciousness” is just that little more than what is produced by the brain⁶⁰: Maybe part of our dream is just beyond 3S-1t alone. And what about the experiences relative to an expert meditator, for example? And we could even speculate that our living sentient reality should never be regarded as 3S-1t because it always includes some meaningful consciousness⁶⁰. So, our experiential reality would then be 3S-1t plus 1 or more “Consciousness” dimensions.^{4, 12, 15} It could be interpreted that that a “consciousness” is relatively non-local because it is not directly *in* Space and Time—it is separate, though linked: However, that differentiation would be semantic.

(Continued on Part III)

References (See Part VII)

Exploration

On Non-locality III: Dimensional Biopsychophysics

Vernon M. Neppe^{*} & Edward R. Close[†]

ABSTRACT

In this third article of the six-part series, we extend to dimensions and the new area of dimensional biopsychophysics and recognize that we need extend beyond Popperian falsifiability to examine also feasibility of the limited jigsaw pieces we have available. This leads to the concept of lower dimensional feasibility, absent falsification. We recognize the importance of differentiating the discrete in the finite from the continuity that is in infinity. And we briefly show that the authors' "triadic dimensional-distinction vortical paradigm" model can be applied both empirically and mathematically in the analyses of the higher dimensions, including the 9 spinning finite dimensions that we have derived. The Standard Model of physics works bottoms-up from the experiences of 3 dimensions of space in a moment in time, as compared with a top-down approach. We introduce what we regard as the most fundamental concept, namely "immediacy".

Key Words: dimensional, biopsychophysics, TDVP, Triadic Dimensional Distinction Vortical Paradigm, distinctions, consciousness, relative, framework, non-locality, space-time, level, relative non-locality, dimension, beyond, infinity.

Dimensional Biopsychophysics^{1, 4, 11}

Dimensional biopsychophysics (DBP) is a new multidisciplinary term coined by Neppe. DBP involves extensions of current physics and mathematics beyond the Standard space-time experiential and its related limiting quantal model to dimensions and dimensionometry. It includes extending the biological, consciousness research and psychological disciplines to recognizing that what *exists* and may impact our day-to-day experiences is far broader than purely space-time. DBP therefore involves what is regarded as non-local to many of us.^{1, 4, 64 9, 12, 14, 18} It impacts across many different major areas of study and includes dimensions, the finite and infinite, and consciousness. It integrates and unifies reality involving these broader scientific biological, psychological and physical disciplines, as well as philosophy and several other areas of mathematics including the Calculus of Dimensional Distinctions (CoDD) — the area of mathematics pioneered and developed by Edward Close, later with an assist from Vernon Neppe.⁶⁵

^{*}Correspondence: Vernon M. Neppe, MD, PhD, FRSSAf, Director, Pacific Neuropsychiatric Institute, Seattle, WA; and Exceptional Creative Achievement Organization (Distinguished Professor); and Adj. Prof., Department of Neurology and Psychiatry, St Louis University, St Louis, MO. <http://www.vernonNeppe.org> E-mail: psyche@pni.org

[†]Edward R. Close. Research Associate, Pacific Neuropsychiatric Institute, Seattle, WA; and Distinguished Fellow, Exceptional Creative Achievement Organization.

Feasibility and falsifiability as a system of proof and verification (LFAF)

Dimensional biopsychophysics introduces an important new philosophy of science model to assess the necessary extensions of scientific data. Any multidimensional or cosmological model requires an extension of scientific analyses. This requires the development of a new feasible Philosophy of Science analytic technique, developed by Neppe and Close ⁶⁶, called Lower Dimensional Feasibility, Absent Falsification (LFAF). This is so, as higher dimensional or cosmological aspects often cannot be directly falsified in our worldly “restricted space-time reality”.

LFAF implies that if we could not prove extra dimensions, for example, it would become “metaphysical”: Instead, we can apply the new LFAF technique to recognize that other higher dimensions still produce verifiable information in space-time. ^{4, 11} We then ask “is it feasible?” If we can express the empirical information scientifically in space-time as a piece of a complex jigsaw puzzle, then it is *feasible if it had not been falsified*. This LFAF technique effectively involves the methodology of literature review, hypotheses, methods, results, analysis, discussions and provisional conclusions (including statistical, clinical significance and observational non-statistically needed analyses) applying the recognized (Popperian) ^{67, 68} “not falsified” scientific analyses and then amplifying by saying “can this actively fit what we know into a space-time (or lower dimensional) jigsaw puzzle?” If that is feasible, that provisionally empirically validates; we can then progressively develop further hypotheses in that discipline (a paradigm) and extend LFAF hypotheses to other sciences (metaparadigm). We apply principles of LFAF too in our regular lives. It is very feasible to note whether a medication works in a high proportion of cases. We apply it too in cosmological studies such as evolution. But, in addition, given that we are going beyond space-time, LFAF clearly impacts on what is being labeled “non-local”, and this is potentially dimensional and beyond.

The discrete and the continuous

We have provided several examples in other publications that support our contention that there are 9 finite spinning dimensions ^{4, 12-15}: In 2013, we mathematically proved the existence of 9 spinning dimensions by deriving a particular esoteric angle ^b in certain subatomic elementary particles ^c. We were not surprised by this finding because even before that, starting in 2011, we had proposed that there had to be a finite 9-dimensional spinning reality. We based this on the scientific principles underlying the Neppe-Close multidisciplinary paradigm shift model that we call the “Triadic Dimensional-Distinction Vortical Paradigm”.

^b We refer here to what is known as “the Cabibbo mixing angle in fermions”. Additionally, we demonstrated “intrinsic angular momentum” in electron rotations.

^c The pertinent elementary particles include quarks and electrons. Both are fermions as they have so-called “half spin” properties.

Triadic dimensional-distinction vortical paradigm (TDVP)

The Triadic Dimensional-Distinction Vortical Paradigm is a metaparadigmatic model developed equally by Drs. Vernon Neppe and Edward Close in 2011. It is based on the available broader empirical data of all the sciences (physical, biological, consciousness and psychological), validated partly by mathematical theorems. It applies LFAF for scientific validation, and extends to philosophy (as “Unified Monism”).

The name TDVP derives because it is Triadic —Space, Time and Consciousness all *exist* as separate measurable substrates though are always “tethered” together —they’re linked. D is for dimensions and we also make mathematical distinctions. The V is for spinning vortices, and it involves a paradigm shift.

Briefly, we regard TDVP as having several major elements that are *demonstrably proven because of its mathematical derivations* e.g., we have derived the Cabibbo angle and many other complex areas of physics. This can only be done with 9 dimensions, not 10 or 11 or 5 or 8 or our conventional 3 of space in a moment (the present) in time (*space-time*). One reason why there are several conundrums or contradictions in physics may be because our current “Standard Model of Physics” has not considered that our finite reality was 9 dimensions not just those 4, the space-time of our experience, instead of the many other components of our “non-local” existence, but not directly explained. We simply cannot explain everything applying this Standard Model.

What is covert —hidden and not directly accessible usually—may be pertinent in part in many altered states including near-death and out-of-body experiences.

Importantly, the TDVP model apparently explains all of nature from our physical world, to all aspects of psi and apparent life after death. The key features are the 9 finite dimensions, with further dimensions even higher extending to infinity, a broader “Consciousness”, Infinity model of life and order.

"TDVP" is regarded as a Theory of Everything (TOE) that works. TDVP scores a perfect 39/39 for a Theory of Everything. When compared to 24 other TOEs, none besides that of the original models of Dr Neppe and Dr Close score even 20/39. There is no facet of the major part of the model so far that has been refuted.

Extensions beyond the 9 dimensions

But we also recognized that reality is not simply a 9 dimensional one. We add to this an even higher “countable infinity”— the “transfinite”—which, like these finite 9-dimensions, still has *discrete* pieces like the miniscule pixels on a television (TV). The technical term for this is “*quantized*” as these can be broken down only as far as their component parts. These pieces are *not continuous*, but ultimately at their smallest size can be conceptualized purely as “points”. But they’re too small to be “fuzzy”. They look continuous just as that movie does. But in reality, we argue that these discrete elements, the finite dimensions plus the transfinite are necessarily further embedded in—*completely contained in*—that “infinite”: It is this that is not fuzzy, not a

point even at its smallest. Instead, the infinite extends *without end* —the Ein Sof. This continuous infinity still contains the same *dimensional substrates of Space, Time and Consciousness* (STC), but this infinity is a never-ending continuous unbounded STC reality. We therefore call this the “*continuous infinite*” because there are no discrete, specific points in the infinite because the infinite is like continuous lines without any breaks, as opposed to those pixilated (discrete points) frames we see even on the best of TVs: These remain discrete frames though to our naked eyes may appear continuous and in reality, we perceive almost everything in a continuity even though they are discrete frames.

The reader therefore can understand that when we talk of “non-locality” it could involve any of several different levels—dimensions, the transfinite and/ or the infinite.

Frameworks

When we speak of non-locality, we traditionally are referring to non-locality from a *reference frame*: In us, living humans, this is the “*framework* of space-time”. If that experience in space-time were all there was to our reality, we would not need to look at what could be interpreted as “non-local events” from any other framework of reference. But we know there are other frameworks such as the 9D discrete and the discrete transfinite and the continuous infinite frameworks.

A practical illustrative example is apposite: From what framework does someone subjectively experience an out-of-body experience (OBE)? That individual having the OBE is not experiencing his *subjective* happening as “non-local” because from his “*framework*”, it is “local”. Yet it may be that for us living humans, in space-time *experience*, that OBE is “non-local”!

But if we understand that OBE to be non-local, at what *level* of non-locality is it occurring? We could postulate that that OBE could be understood to be occurring beyond space-time, and possibly *within some* of those higher dimensional levels of existing finite reality—hypothetically, we do not know which level, and it could vary depending on the specific event, but it could involve only specific components of these dimensions like 5 and 6 together, or the 4th to 9th dimension, or dimensions 1 through 9, in which case some of it would be in space-time reflecting part of the broader whole.

The numbers are purely illustrative and the specific speculative detail is unimportant here. However, the principle could be that the specific dimensional domains involved even in OBEs might differ and be idiosyncratic for every specific individual “experient”^d. Consequently, the experiences of each observer might reflect different subjective *levels* of non-locality *experience*. The descriptions of these events might vary greatly and theoretically the happening could, also or

^d An “experient” subjectively experiences—his/her *perception* of reality, and then interprets that perception relative to that reality. Experiencers are not objectifying their experiences. In contrast, we in 3S-1t could imagine these descriptive levels, and propose how “observers” might describe their *conceptualizations*, and then interpret their reality of those theoretical experiences.

instead, be at the even higher levels of quantized discrete happenings, namely the “transfinite”. Theoretically, the event could even be at the “infinite” levels. Consequently, an *experient* having an OBE might reflect his locality at a specific subjective *reference framework* level, yet we, as fully conscious space-time beings, would be interpreting a degree of “relative nonlocality” to that specific OBE experience: It is non-local *relative to our space-time fully conscious reality*, and we may or may not be able to define the extent of the non-locality, but, ultimately this might be important to ensure we interpret the commonalities with and the differences from the subcategories of OBE or of any other non-local experiences or events.

Moreover, the term “*framework*” in this context would refer to *the dimensional domain within which the experient is located*, and it is from that level that he will observe and interpret his reality. But when some experiences or aspects of consciousness or awareness are not located in *his specific* space and time and meaningful “conscious” awareness, he *might* experience that as “*relative non-locality*”: It is relative to his framework as the experient. To that observer, any event at an even higher dimensional level would certainly be non-local for him. And any events dimensionally “below”, might be experienced as “local” because he would be looking from the outside into the dimensionally lower box of, for example, space-time. However, theoretically, not all the box below may be transparent because the walls of the box might still be opaque—the “translucency metaphor”: This might mean that some aspects below would still be “relatively non-local” because not everything below the observer might be directly observable.

The basis of ostensible non-local phenomena in space-time

The postulation of different levels of non-locality is not idle speculation: We know scientifically that much of our actual reality is hidden from us—they are unavailable to our limited senses such as the infrared and the ultraviolet visual ranges, and the extensive inaudible ranges outside conventional hearing in humans. Now these descriptions could still be in space-time: We, therefore, actually only experience “*restricted space-time*” because our direct experience is restricted.

We can slightly extend our measurable experience indirectly using instruments (like X-Rays and MRIs) and we recognize that some of these events may be detected by land animals (e.g., profound olfaction—smell—in dogs) or sea creatures (like echolocation in dolphins). This means that even at this space-time level, we can interpret phenomena as “non-local” when other animals or even humans would directly experience it. It may be that some sensitive humans have sensors that allow some of this to be experienced but not consciously: it would be just “*subliminal*” for us.

The small case “1t” is the “present” moment in time, and that, too, is part of the restriction. We do not directly experience the future or even the past. That would be capital T but while fully conscious we perceive only our “restricted space-time” experience. But there is more.

The mathematical proof of the 9-dimensional finite reality

We have argued that there is empirical (scientific) and mathematical data supporting further dimensions besides these four that we experience in that restricted sense. The major reason for this is its demonstration by what could be called “the authors’ mathematical derivation of 9 spinning dimensions”^{4, 14, 15}. By this means, we apparently can demonstrate the solution to some of the most remarkable mysteries¹ in physics which are not accessible if we just apply space-time in any form.

The earliest proof of this was our mathematically elucidating the so-called “Cabibbo angle” and, with it, also demonstrating “intrinsic spin” in elementary particles. What does all this refer to? The Cabibbo angle, discovered by Nicola Cabibbo in 1963, is an esoteric measure of the probability of a certain kind of particle decay in particle physics. It had been found to persist at a very strange angle (13.04 degrees) by using sophisticated detectors and collectors in high-energy particle colliders.^{4, 14, 15} However, the reason why it was that specific size could never be explained by the Standard Model of Particle Physics, even though it had been attempted. The mystery had consequently remained unsolved for 50 years:

It turns out that the Cabibbo angle can only be solved by mathematically applying a specific number of dimensions (in this instance, 9). However, we still cannot rule out exponents or harmonics of 9, such as 81 or 729 dimensions. Furthermore, our solving the derivation of this angle was particularly thought-provoking. This was because it confirmed two fundamental hypotheses in our TDVP model^{12, 15}, first, that the number of dimensions that *had to exist* in finite reality were 9, and, second, that they had to be spinning¹³. Importantly, these 9 dimensions were not associated with the “foldings” that have been hypothesized in “String Theory”.⁶⁹⁻⁷¹

After all these years, “String Theory” remains a “theory” because there is no adequate empirical evidence for making it more than theoretical. This is in contrast with TDVP, where there are already several “proofs” applying 9 dimensions to the nature of reality.^{4, 14, 15 12, 15, 69-71} Instead, the way we shift in mathematical physics from one dimension to another is through rotations of tiny elementary subatomic particles.^{14, 18}

The current Standard Model of physics is supplemented

Of course, any multidimensional model does not refute or violate most of the so-called “Standard Model of Physics” (SMP): The SMP is “standard” because the findings are based solely on our day-to-day scientific experiences within the space-time dimensional model, and can still explain possibly 99.9% of our reality.⁴ However, there are areas of the SMP that remain incomplete. These inadequately explained aspects might potentially require explanations that involve extending dimensions. A commonly cited example in the SMP of a fundamentally unexplained linkage is the relationship of gravitation and quantum mechanics.^{4 9} Even more so, some data in physics might even be contradicted by the standard model of physics—a reason why we’re discussing “non-local” phenomena in this paper!⁴

But these reflect only a small number of unexplained theories and empirical data. Nevertheless, they are critically important, because any “theory of everything model” and any overarching paradigm should not be contradicted in any legitimate and valid model. When areas such as

entanglement might contradict or violate the SMP, we need to re-evaluate the assumptions underlying the SMP.⁴ We argue for the need for dimensions above the conventional four (space-time) because higher dimensional models might facilitate answers to previously unanswered questions.

We see these extra dimensions as extending our knowledge base that still allows us to understand most of SMP. The extra dimensional idea is not just an idle speculation, because we have already demonstrated some cogent new findings by specifically applying a nine-dimensional model.⁹ Amongst these new discoveries are that the electron structure cannot be purely spherical; that we can explain what was previously a conundrum, the reason for the disappearing electron cloud; and discovering intrinsic angular momentum. We are currently working on Special Relativity (not contradicting it, but recognizing that a 9-dimensional finite reality requires extending it), on triadic quarks and its relevance to the elements of life, and on so-called “Dark Matter” and on “Dark Energy”.⁹

Most of our experiences based on the SMP, could theoretically and empirically be *incorporated* into the existence of higher dimensional models: space-time *experience* reflects an important part of our broader *existence*. And what is not our direct experience, is sometimes conceptualized as “non-local” and even more so thought of as “beyond space and time” when it may just be a different kind of space and time and consciousness that is not directly experienced by us as living humans.

Continuing this theme, though the mathematical calculation of the Cabibbo angle of itself might appear to be an obscurity^{14, 18, 72}, the context, proving as it does that our mathematical finite reality is made up fundamentally of nine spinning dimensions (9-D), might be huge^{14, 18, 73}. Importantly, we now know, mathematically, that there cannot be 4 (as in the Standard Model) or 5 (as in so-called Kaluza-Klein theory⁷⁴) or 10 or 11 or 26 (as in different String Theories⁷⁵⁻⁷⁸) or any other lower number of dimensions because the calculation would not work.

Because of this, in the context of non-locality, we therefore need to recognize that non-local phenomena, besides restricted space-time, exist. We postulate that they may even be beyond those 9 finite spinning dimensions and we must therefore define it relative to the specific levels of non-locality or from the framework of observers at those levels.

Non-local phenomena based on conceptualization of different dimensions

The concept of extra dimensions allows for a special way of approaching reality in the context of non-local phenomena. Let’s apply the analogy of a MRI of the head for example: Specific cuts are taken through any part of the head. We could theoretically perform an infinite number of discrete (“transfinite” number) cuts through these planes (2 dimensions) (2D). This would produce a transfinite number of parallel lines (1D). Ultimately, we build up these planes into 3 dimensional volumes (3D)—the three spatial dimensions of length, breadth and height: Strangely, when we look down from the framework of that third dimension, there are an infinite number of two dimensional planes and even more so a further infinite number of parallel lines along those 2 dimensions. Further along these lines are an infinite number of points. When we

observe from the 1D line, we might sometimes see the points. Yet, along the plane we can see that they're continuous. Additionally, there may appear to be points in those planes because any wave or object that is not straight with the cut will appear discontinuous. But if it were in all three dimensions, we might see this as a continuous graph. To the lower dimensions, the points may be disconnected when they are actually continuous.

This analogy can be applied to a single higher dimension or series of dimensions (dimensional domains). Importantly, events that seem impossible because they're discontinuous and apparently disconnected, may be connected when observed from higher dimensions ("top-down") from higher dimensions. We could say from the lower dimensions that there is a disconnection in space (e.g., as in "remote viewing"), time (e.g., as in "precognition" or "retrocognition") or both (e.g. precognitive remote viewing). In every instance, this is modulated through some kind of consciousness, and in the living person, the endpoint expression (the brain, or for that matter, the autonomic nervous system as it may simply be registered) is a "local" organ.⁶⁰

Effectively, this analogy provides for us a way to perceive space and time at higher levels when we may be saying that these higher events in space-time are non-local because they're beyond Space and Time, but that perception is simply based on our framework of our limited and restricted space-time experience and does not reflect the reality that exists.

Immediacy: Discontinuous and continuous is relative

What is the relevance of such concepts? Simply this: Effectively, events might appear discontinuous in lower dimensions, and yet be connected in higher dimensions. They may not lose their impacts over time and space because in higher dimensions, certain features observed in space-time may or may not apply: What would appear to be communications with immediate disconnectedness even at great distances, might sometimes be understood as "connected" from the framework of other higher dimensions. At that level, there may be actually be *connectivity*, and the *immediacy* of things happening (as in *knowing the future—precognition*) may occur because it is part of the same multidimensional event: It might not require even light speed to transfer information because there is no transfer—the connectedness, even at thousands of miles distance in lower dimensions, could be there as part of a single structure at a higher dimension, just as a circle in two dimensions may be part of a sphere in three dimensions.

This concept also is important in another way: Lower spatial dimensions may distort an obvious observation for an observer in a specific higher dimensional framework. Of course, it might require many dimensions or levels higher for the observer to understand this linkage: That is why we talk of "relative non-locality". Effectively, these findings may not apply from the framework of a specific dimensional domain because the analogous parallel cuts on the MRI may be much higher dimensionally. In other words, the dimensions remain relative. We could distinguish connections: These distinctions might be quite false at a lower dimensional level relative to an observer in a different higher framework. At some point, at certain higher dimensional domain levels, any connections may be obvious, because we have connected the dots that are continuous there, yet those dots appear separated in space, time and consciousness at the lower levels.

Because our consciousness as physical beings is usually limited to space-time, we look at these different specific non-locality examples as *relative to our space-time domain*, but clearly there may be different kinds of non-locality.

(Continued on Part IV)

References (See Part VII)

Exploration

On Non-locality IV: Necessary Conceptualization

Vernon M. Neppe* & Edward R. Close⁺

ABSTRACT

In this fourth article of the six-part series, we discuss the different levels of relative non-locality and why it is relative to a general level, and specific to the framework of an observer. We recognize the four major consciousness levels: relative dimensional non-locality, relative infinite non-locality, relative mystical non-locality, and relative transfinite non-locality and add to that relative quantal non-locality. The authors' data deriving 9 spinning dimensions are pertinent and discuss in more detail our concept of immediacy. Similarly, we motivate the infinite by applying the idea of an infinite flow, "gimmel", impacting all of finite reality from the sub-quantal to the cosmological. We conceptualize the role of the transfinite as the "10th plus dimension", and the practical significance for us in space-time accentuated in a reality governed by the laws of nature.

Key Words: quantal, limitations, phenomenological, consciousness, relative, framework, non-locality, space-time, level, relative non-locality, dimension, beyond, infinity.

Conceptualization of "Relative"

We reiterate here the fundamental thesis of this paper: *"Non-locality should never be an isolated term: To achieve descriptive meaning, and to analyze it as a phenomenon it must be conceptualized as "relative" to a specific level.* We emphasize this, because it appears to be a critically important new concept: Relative non-locality is apparently obvious yet almost completely neglected despite being so. As living beings in clear consciousness, we always make our interpretations from the framework of the similar but still individual restricted space-time domain we experience. Yet, we often confirm our consensual subjective experiences in restricted space-time, allowing for a consistency. Our "relative" is shared. But, if we could be observers moving hierarchically through very different levels— "upwards" through dimensions, or into parts of the transfinite, or even into components of the infinite, and towards the ultimate mystical infinite, our framework at each level would be very different, and yet might even be quite idiosyncratic relative to the level we were at, because we likely could not validate it by other observers at that level.

In Reality Begins with Consciousness, we recognized the need for levels of non-locality and for it

*Correspondence: Vernon M. Neppe, MD, PhD, FRSSAf, Director, Pacific Neuropsychiatric Institute, Seattle, WA; and Exceptional Creative Achievement Organization (Distinguished Professor); and Adj. Prof., Department of Neurology and Psychiatry, St Louis University, St Louis, MO. <http://www.vernonNeppe.org> E-mail: psyche@pni.org

⁺Edward R. Close. Research Associate, Pacific Neuropsychiatric Institute, Seattle, WA; and Distinguished Fellow, Exceptional Creative Achievement Organization.

to be relative. We described, motivated and referenced five levels of non-locality⁴. Now, in this more detailed analysis, we increase this number substantially. We present eight specific levels of non-locality, and two more, broader ones in which the eight may be contained, and we simplify by labeling the multiple different non-localities in Physics into one header, even though there may be several.

In Table 2, we list the 11 levels of relative non-locality. This extends from the 5 levels of non-locality that we previously postulated.⁴ We list Table 2 first using the apparently more obvious kinds of relative-nonlocality (RNL) and then listing those that are less obvious.

Table 2: Different Levels of Relative Non-locality

Name	Pertinent Level	Example	Abbreviation
The 4 more obvious RNLs	Defined RNL levels		
Relative dimensional non-locality ⁴	NL relative to 9-D or multidimensional	Near-death experience, out of body experience	<i>RDNL</i>
Relative infinite non-locality ⁴	NL continuous infinite	Continuous infinity ? survival after death	RINL
Relative mystical non-locality ⁴	NL infinity of the infinities	Divinity? All levels of the infinite	RMNL
Relative transfinite non-locality ⁴	NL highest discrete	Discrete mystical experience	RTNL

(Abbr. = Abbreviation; NL is non-local, RNL = Relative non-locality; reference⁴ indicates that this was previously described in RBC.⁴; if not this is a new kind of RNL)

To these, we can add the kinds we have discussed in Physics namely **Relative quantal non-locality**

Relative quantal non-locality	Quantum physics extension	Several models including “entanglement”.	RQNL
--------------------------------------	---------------------------	--	------

Let’s initially talk about the rather explicit hierarchies of relative non-locality (RNL).

A key relative non-locality: Relative dimensional non-locality

At the first level, we have “*relative dimensional non-locality*” (*RDNL*). In this instance, we are conceptualizing beyond space-time. It may be that no living animal or human being, as we know them, could perceive this directly because we experience only restricted space-time —parts of our first four dimensions and of the nine demonstrable finite dimensions. We are not here discussing the complex topic of the composition of these 9 dimensions. We have good but not proven data that they consist of dimensions of space, time and consciousness. This is discussed

elsewhere.^{4 14 18} Most of that 9-D reality (possibly dimensions 5 to 9) is hidden^{4, 13-15}. We are not *speculating* about the existence of 9 dimensions. 9 dimensional spin has been *definitively mathematically derived* from calculating the Cabibbo mixing angle size.^{12, 14} We categorize *RDNL* as relative non-locality involving the finite dimensional domains: These have discrete points that we can mathematically delineate. We can conceptualize and interpret these points but not perceive them directly through our physical senses.

As with the MRI of the brain analogy, we can conceptualize an infinite number of options in every dimension below the one we're examining. We can, "see the whole box from outside the box". From that "top-down" *framework*, this "visualization" may not be relative non-locality at all; yet, from our framework of live humans living within that space-time box and unable to directly see beyond the limits of the box, it certainly is relatively non-local. This illustrates that our concept of reality at that space-time framework level is an incomplete simplification. Clearly, there can be different relative dimensional levels of non-locality, but for simplicity, we combine those into one.

Mathematically, *RDNL* in the multidimensional paradigm is based on our extended geometrical dimensional work.⁴ Though we have derived and therefore demonstrated a nine-dimensional paradigmatic level^{12, 14} and recently this has been amplified even more by a "thought experiment" replication.¹⁵, we cannot postulate the exact composition of the 9 dimensions—logically it may be 3 of Space, 3 of Time and 3 of Consciousness, but that is our speculation only, though there is some mathematical support for this. Importantly, we argue that these 9D include "Consciousness" dimensions (for more detailed discussions see other sources.)¹²

Immediacy

The important principle in *RDNL* is that communications between two *distant* objects and events may appear *simultaneous*. Importantly one of the most relevant Einsteinian findings was that events separated in space that are registered as simultaneous by one observer will not be simultaneous to another observer moving with respect to the rest frame of the first observer.¹⁴ So simultaneity is relative even in space-time observations. Time taken to travel is irrelevant in the relatively non-local "immediacy": This is more easily understood when conceptualizing events relative to higher dimensions than just space-time. We postulate that this "*immediacy*" is the factor that characterizes the necessary element of the non-local paradigm. It does not even require speed of light communications:

It is immediate. For the space-time observer who does not regard our world as anything beyond space-time, these non-local events would appear to be anomalous because they could not be explained except to suggest that they are "beyond space and time". But it would be more comprehensible, if we understood that there are higher dimensions. From the framework of our space-time experience, simultaneous connections of events may make them appear "non-local". But, if we were dealing with covert dimensions, that same space-time simultaneity may be perceived differently. We could understand that events separated in space and time in space-time would be immediate and simultaneous in time, and not at a distance in space because that space at that higher dimensional level is reflecting the same event.

RNL in the Infinite (RINL)

Let us now jump in our relative non-locality classification and clarify what the “*continuous infinite*” means: This is the idea of *RINL*: In the broad-spectrum paradigmatic TDVP model we have already developed (TDVP is detailed in our 500 page RBC E-book, with 50 chapters and elaborations across many endeavors ⁴), we describe the infinite as limitless, unbounded and continuous. The continuous infinite is without end in the Space, Time and Consciousness Substrates. The infinite is conceptualized as a continuous domain within which all the finite dimensions are embedded. We can now appreciate that there is a concept of “relative continuous non-locality” (RINL), but this time we can only conceive of that gestalt, not the detail, which may be incomprehensible to us conceptually.

Infinity reflects a continuous subreality that obeys the laws of nature, but because we can usually only conceptualize the gestalt—the whole, the total content of what is within that infinity is almost completely unknown from our space-time framework. We have proposed that there is a flow of communication between the continuous infinite to the quantized, the pieces that are in the finite, such that the infinite pervades everything. This then makes concepts such as non-locality in the infinite and in the mystical more relevant, because using this idea there is a way to impact us living human beings. The mechanism involved is called “gimmel” (λ).

Gimmel involves infinite flow of Space, Time and Consciousness. This allows a postulated continuous vortical three-dimensional infinite volume flow of gimmel to become structured specifically in the discrete finite, at every size level from the smallest subquantal through to the cosmological. We can now explain the infinite continuity of a flow of space, time and consciousness pervading the finite and transfinite as this “gimmel” is a part of everything. Nothing can exist without Gimmel: It pervades every bit of our existence. Now this might sound like a wild hypothesis, but it is not. We have postulated that gimmel involves mechanisms of life, and our early work provides ample empirical support that the elements, molecules and indeed RNA and DNA building blocks of life contain relatively more gimmel, to the extent that we hypothesized that silicon should be an element of life and this is theoretically possible. ⁷⁹ We’re also finding remarkable correlations of the proportion of gimmel with so-called “dark matter” and “dark energy” and gimmel may be a third component here. ^b

The mystical infinite RNL —RMNL

We move to an even higher level of the continuous infinite. We’ve used the term “*mystical*” in *RMNL*. It implies the whole level of infinity including the highest level that “embeds” all other levels of infinity—the *infinity of infinities*, first conceptualized by Georg Cantor, in the late nineteenth and early twentieth century. ¹⁰ At this highest most complete level is the “*Relative mystical non-locality*” (*RMNL*). This reflects the ineffable, the true continuity of everything

^b A paper is in process on this involving what we are calling TRUE units: Triadic rotational units of equivalence. Preliminary data has been presented in December 2014 to the Seattle Consciousness, Education and Research Society (SCERS).

without an end, the continuous infinity. This whole reflects the mystical continuous all-embracing infinite reality. This is the magisterium of the theologian.⁸⁰ He may refer to this relative mystical non-locality as the *Creator, or the Divinity or God*. Whereas the living human might attribute characteristics to the Creator such as omnipresent, omnipotent, omniscient, omnificent or omnibenevolent, these characteristics enter the realm of theology and impose man-made conceptions on a concept that may be beyond humanity's limited corporeal understanding. Applying a scientific model, we can only appreciate the unending vastness of this continuous infinite reality, again using human terms of higher levels of the infinite and conceiving of a mystical infinite of the infinite, whereas theology postulates we have a creator and Divinity.

In our model, we do not comment on the theological, per se. We do not attribute any qualities, but just describe an existence. This RMNL reflects the level of the “infinity of infinities”. RMNL may be akin to Georg Cantor's very controversial original use of this phrase “infinity of infinities”¹⁰, but it may be conceptually different.

The infinite contains the broader discrete finite

The infinite must necessarily encompass everything in the discrete finite, as the discrete reflects singularities, or planes or volumes or possibly fundamental dimensional descriptive units beyond that. The Infinite necessarily must encompass Space, Time and Consciousness. This would be a space beyond extension, and without beginning and without end. There is no origin in infinite Time and that is conceptually without beginning or end: It is truly eternal, and yet to us, living humans, it is timeless and we again talk about it as non-local when it is RMNL, the highest level of non-locality. And it is a consciousness that incorporates the unending reservoir of information.

The metafinite — the transfinite and the dimensional finite

Quantized pixilated reality

As living humans, it is likely we can never appreciate the full continuous nature of the infinite directly: The infinite continuity can only be conceived of within the fabric of a *mirror of pixels*. That is why we use the term “quantized” reflecting the *discrete* units that include the finite and transfinite. The mirror is in both so we have conceptualized by necessity, a new term “metafinite”: It is a composite term for the transfinite—the “countable but discrete” infinity (as conceptualized by the mathematician Georg Cantor¹⁰) and the actual finite dimensional extent—which we have demonstrated is a 9 dimensional reality¹⁴ which is spinning.¹⁸

The metafinite

We use the term “metafinite” because we need to describe the discrete (nine or whatever) lower dimensional finite realities plus the higher (technically countable forever) discrete transfinite reality together to understand that both reflect the mirroring of the infinite continuity, like we're watching a movie. This idea appears simple, but it is also profound: Our reality is always experienced as discrete, quantized and pixilated, like the movie making us think that the parts are not just separate frames but are moving so fast they appear continuous. The metafinite is a term we developed out of necessity: It includes the 9 dimensional finite and the 10th plus transfinite

dimensions.⁴

The locality of space-time

We live in our “metafinite” reality only. However, most of the time we *experience* a tiny portion of our existence—the part that can be attained in our day-to-day direct appreciation of aspects of space-time. We can only conceptualize our reality that is nevertheless happening in the finite 9-Dimensions, and even more so, we have to imagine the higher discrete level that we call the transfinite. And though we live in that metafinite component of reality, and our physiology and physics prevent us from being aware of anything but discrete events and part, our full reality is nevertheless the discrete metafinite embedded within the continuous infinite.

The metafinite is embedded within this continuous infinite subreality

The metafinite consists of discrete, quantized, pixilated realities that therefore can be measurable by interval or ordinal measures. It is our mirror for conceptualizing the infinite continuity that is not directly accessible. The metafinite is likely that mirror: This is so as it may allow us only broad but still minimal brushstrokes to appreciate the ineffability of the concept of the infinite.

We have a street address

We could quip that our full physical address may be 440097 973rd Avenue Northwest, Seattle, Washington, United States, North America, Earth, Solar System, Milky Way galaxy, ...Universe.... But the latter parts of our address are irrelevant and unattainable.

We can draw the same parallel for our experiential address: Our experience of restricted space-time, Nine (or other dimensions), Metafinite, embedded in Infinity, all of reality. Everything is ordered, even though much may appear irrelevant and unattainable. The bigger picture may appear irrelevant to us in our day to day reality because it is “beyond our space and time and our consciousness”. To us it is “non-local”: But effectively, we are all one unit and our experience is a tiny component of that single ordered natural law reality.

The laws of nature are consistent

In effect, both our finite and infinite existence obey the model of laws universally applicable to all of reality. We might not recognize how these laws impact us, but these ordered *laws of nature* govern all of reality at every level of space, time and consciousness.

In our restricted space-time reality, we might interpret our *experience* of some events that we cannot explain as “*supernatural*” or “*miraculous*”. But they are not supernatural events or miracles because they still conform to the ordered laws of nature in the whole broader reality. To us, the happenings might be interpreted as “miraculous” in our space-time experience because a remarkable coincidence might have occurred during the correct moments (the appropriate present time) in the exact place resulting, for example, in truly amazing space-time synchrony of the meaningful information. Yet, some of these so-called “supernatural” events might more easily be comprehended by an observer at higher dimensional levels, and from that observer’s framework, the same events might be conceptualized as natural, not “miracles”, because they would be explained.

However, some other events might still not be comprehended, and therefore, still might be regarded as “miraculous” at that higher dimensional domain level: The “magic” would still not

have been fully revealed, and so these “miracles” might require hierarchically even higher levels of relative non-locality to conceptualize. At the furthest extreme, such events might only be understood by an observer at the ultimate “infinity of infinity levels” where everything could be conceived of, conceptualized and may be understood: Theologians might call such an observer the “Divinity”. In all these instances, the supposed “miracles” would simply still be following the ordered laws of nature. Applying this logic, no event can be supernatural because everything that exists in nature is governed by the broader natural rules of reality.

Infinity and our limitations

We cannot begin to fully appreciate its exact nature and unbounded extent of those infinite levels: For us, who can only experience a tiny portion of our finite reality existence, it’s enough of a challenge to begin to appreciate aspects of the broad gestalt of that infinite, and it’s likely we cannot even conceptualize the broad brushstrokes of the infinite content. That content to us living humans might be interpreted as supernatural or miraculous: It’s a useful rationalization—preliterate cultures may say “the Gods have done that”, but that is their misinterpretation of reality based on the limitations of their sociocultural experience from their space-time framework. Parenthetically, however, such a rationalization does not exclude those Gods or a Divinity: But we would argue that that Divinity in the highest mystical infinite realities would still be contained within, not outside, the laws of nature.^{4, 9, 14, 15}

The broader discrete metafinite is embedded in the infinite continuity

As philosophers or mathematicians referring to the transfinite, we can make the mistake that this reflects all the continuous infinite but is quantized. We regard that assumption as erroneous. We postulate too that all the components of the various dimensional domains of the finite are *also embedded* in this continuous infinity. That is why the two together (dimensions of the finite and the transfinite that is countable infinity but so much that it is not countable!) are the metafinite and they together mirror the infinite and are contained (or “embedded” in) the infinite continuity. Together they make a single unit.

The transfinite and RTNL

When an observer experiences his/ her reality relative to some elements of the discrete transfinite, that observer is experiencing reality from the framework of the Relative transfinite non-locality (RTNL) level. But that may only be possible in mystical peak religious experiences and we would propose that for most human beings, the RTNL framework is never even closely attained. We could speculate as to what qualities of consciousness, for example, are involved in RNL and argue it is far beyond even particular consciousness dimension combinations which may involve components of affect, cognition and volition. In RTNL, we could postulate that there are far deeper transfinite qualities, such as love, valor, wisdom, possibly intuitive awareness, creative thought and determination, but we really don’t know.⁴

For most ordinarily beings our relative non-locality is from the framework of restricted space-time, and we would have to imagine what the highest level mystics or creative beings may be experiencing “beyond our space and time” and certainly involving a consciousness that pervades all.

We can now more easily categorize “*Relative transfinite non-locality*” (RTNL). Whether or not there are 9 finite spinning dimensions, above them is further discrete technically countable

infinity which we call the transfinite. The transfinite differs qualitatively from the other parts of the metafinite because unlike space-time where we need to seek out any kind of “consciousness” outside the brain if it even occurs, these highest transfinite dimensions predominantly contain consciousness —“C-substrate” qualities. Still Space (S) and Time (T) substrates are very much linked to this C-substrate. We call this linkage, which always exists, “tethering”⁴, but at this transfinite level S and T are totally embedded (contained) in the C-substrate: *We simply cannot have Space and Time with Consciousness*. In contrast, in space-time, for most people, it would be difficult to have Consciousness without being almost totally contained in Space and Time. The transfinite hypothetically reflects expansion of greater awareness and recognizes a broader, discrete reality. Technically, in TDVP, we postulate that the transfinite incorporates (embeds) the 9 finite dimensions just as the continuous infinite embeds the discrete metafinite. We apply a mathematical process for higher dimensions called Dimensional Extrapolation. This mathematics simply runs out of numerical representation when going beyond 9-finite dimensions to the 10th plus, as it contains everything beyond those dimensions but also contains the 9 finite dimensions, plus the transfinite. This combination of finite (9D) and transfinite is what we're calling the “metafinite”.⁴

We propose this idea mathematically: This “relative transfinite non-locality”, RTNL is conceptually a level up from the dimensional RDNL, reflecting the countable infinity, but it also has some tenuous mathematical support as being equivalent to the (so-called) “hypercomplex numbers” of mathematics⁴. This is also a “level up” mathematically where the nine dimensions reflect the field of real numbers (integers, rational and irrational numbers) relating to Space, of imaginary numbers relating to Time, and of complex numbers relating to dimensions of consciousness.⁴ In Consciousness contexts, we speculate the transfinite may be equivalent to the higher qualities of consciousness and mathematically, whatever Space and Time exists at that level, is completely embedded in this consciousness. It may be similar to a dream in this regard. In between space-time, where there may be very little consciousness other than that originating in the brain neurologically or psychologically⁶⁰, and the transfinite, which is consciousness containing space and time, are the ostensible 9 dimensions where space may be contained in time and time in consciousness, though this order might be dynamic, speculative and a useful theoretical construct only.⁴

Translating this mathematical idea philosophically, we could speculate that RTNL might allow for peak experiences in meditation or altered states, and it may allow for appreciating the deeper higher level qualities —that’s why we propose very speculatively that concepts such as love, valor and determination and, unfortunately, negative qualities such as hatred may be part of the Transfinite. Yet, the transfinite still embeds all the “lower” nine dimensions, and we have postulated, again based on provisional mathematics that there are three dimensions each of Space, Time and Consciousness and we refer to these by the phrase “3S-3T-3C”.

Revisiting RDNL

Consequently, we can further analyze “non-locality” from the framework of any of these lower “dimensional domains”—any combination of these 9 dimensions (like the 6th to 8th dimensions) and we could postulate that there are components of transfinite dimensions. These states may dynamically vary or the trait may be in flux (in its widest speculation, as in supposed “survival after death” and progression). Importantly, therefore, there may be no obvious boundaries

between the RDNL and RTNL levels.
(Continued on Part V)

References (See Part VII)

Exploration

On Non-locality V: More Esoteric Relative Non-locality

Vernon M. Neppe* & Edward R. Close⁺

ABSTRACT

In this fifth article of the six-part series, we discuss the more esoteric and general kinds of relative non-locality, namely relative subliminal non-locality still in space-time, and relative time non-locality with only apparent time shifts, the disputed relative local non-locality where some kind of broader psi may precede regular speech communication, and relative pseudo non-locality variably due to brain malfunctions, psychopathological or other misinterpretations. We then examine global examples: Relative delta non-locality as any ostensible relative non-locality without defining the level, relative higher non-locality where there is specifically a relative non-locality but we don't categorize the level, and again relative quantal non-locality as any relative non-locality in quantum physics.

Key Words: quantum, esoteric, erroneous, restricted, consciousness, relative, framework, non-locality, space-time, level, relative non-locality, dimension, beyond, infinity.

The more esoteric relative non-locality

We now briefly describe several other important but more esoteric kinds of *relative* non-locality. These reflect examples of the complexity of the concept of relative non-locality, but fulfill a need because these esoteric kinds of relative events can be interpreted as RNL, but could easily be disputed.

First, we describe subliminal events.

Then we examine shifts in time.

We briefly examine looking at extending the local to the non-local.

We then look at distortions that are misinterpreted.

These are summarized in Table 3.

Table 3: The more esoteric kinds of non-locality

Name	Pertinent Level	Example	Abbreviation
<i>The 4 more esoteric RNLs</i>	<i>Might not even be RNLs</i>	<i>Not far off the level of space-time</i>	

*Correspondence: Vernon M. Neppe, MD, PhD, FRSSAf, Director, Pacific Neuropsychiatric Institute, Seattle, WA; and Exceptional Creative Achievement Organization (Distinguished Professor); and Adj. Prof., Department of Neurology and Psychiatry, St Louis University, St Louis, MO. <http://www.vernonNeppe.org> E-mail: psyche@pni.org

⁺Edward R. Close. Research Associate, Pacific Neuropsychiatric Institute, Seattle, WA; and Distinguished Fellow, Exceptional Creative Achievement Organization.

Relative <i>subliminal</i> non-locality ⁴	Not non- locality	Subliminal stimuli not psi; still in space-time	RSNL
Relative (unidimensional) Time non-locality	space-time	Pre- or retro-cognition, presentiment; involves RNL of past, present, and future.	RUNL
Relative local non-locality	Carpenter's First Sight ⁸¹ psi model	Precedes regular speech communication	RLNL
Relative <i>pseudo</i> non- locality	Appears non-local but is not.	Brain, psychopathological misinterpretation	RPNL

(Abbr. = Abbreviation; NL is non-local, RNL = Relative non-locality; reference ⁴ indicates that this was previously described in RBC. ⁴; if not this is a new kind of RNL)

Relative subliminal non-locality

“Relative subliminal non-locality” (RSNL) was originally described by Neppe and Close as one of their five subdivisions of RNL. ⁴ Subliminal stimuli are well known to psychologically impact on individuals. Subliminal in this context implies that in some way the stimulus registers but subconsciously, without the individual being aware of it as it is below the threshold to register. It is pertinent even in advertising because it may influence responses. RSNL is located purely at the space-time level in living beings. It does not involve extensions of Time or Space, though the information delivered is available as a subtle communication. Therefore, to call it “non-local” would be a misnomer. However, it might be misinterpreted from the framework of the ostensibly normal individual experiencing it as RNL because the information would not be arising from their overt measurable space, time, or consciousness. Subliminal events might occur not only in advertising as deliberate effects ⁸², but might incorporate accentuations of stimuli we’re unaware of, such as electromagnetic fluctuations. The prefix here of *subliminal* is apposite because we could easily interpret such phenomena as anomalous but not necessarily psi, and the individual having it may regard it as “psi” and a non-local phenomenon. Similarly, there may be other indications of perceiving experiences in humans such as heat that is detectable by our senses, or of our autonomic nervous system reacting or our muscles becoming tense, though it is not easily measurable, and use of the “third eye” is now a popular layperson marketing tool. ⁸² The phenomenon of synaesthesia with mixing of our regular senses (e.g. hearing colors) is acquiring greater attention. ^{83, 84} We’ve pointed out how dogs can have higher smell sense, how dolphins can circumnavigate. There are anecdotally tens of different abilities that individual non-human living organisms possess, but that humans do not. ⁸⁵ One could speculate that if some individuals were more sensitive to a specific ability, they just could occasionally be picking up the high limits of one or more of these subliminally if they break through. Moreover, the advent of machinery has allowed us to broaden our perspectives on what was previously non-local: EMFs are known medically to do this. ⁸⁶ Of course, many, quite correctly, would not regard such

experiences as “non-local” at all, but the registration of the stimuli may be misinterpreted. This is why we’re being careful to conceptually classify the extent of each phenomenon.

Relative space-time non-locality

RUNL is relative to movement across Time—not only the present *It*, but also the future and the past. *RUNL* is the first level—the “non-local” extension of our usual experience. *RUNL* describes *1 linear time dimension* form of non-locality—unidimensional time—as opposed to our TDVP model which postulates multidimensional time: The large *T* here implies a linear dimension of Time extending beyond this moment (the present small “*t*”) so movements across time— foreknowledge of the future (precognition) or back time (retrocognition) or presentiment (impressions seconds before occurrences) would fit *RUNL*. Whereas these could be examples of *RUNL*, they could also be associated with other higher relative non-local phenomena too. For example, altered consciousness states, or meditation may be more complex than just one level of time movement.

This conceptualization together of a single Time dimension of a linear, past, present and future provides a basic example of the immediacy in relative non-locality: Time is predictable in the past or the future despite being in the present.⁴ Mathematically, we define “dimensions” very carefully: Dimensions have “extent”; this involves measurable real, imaginary or complex numerical values; they range from zero; they are discrete values to infinity, and they apply interval or ordinal measures. They can be quantized as discrete measures in the finite or transfinite) or infinite (reflecting a continuous infinity). Dimensions are technically non-congruent, non-parallel extensions measurable in terms of variables of extent. The study of dimensions is a key multidisciplinary area of Dimensional Biopsychophysics (DBP). Dimensions and, indeed, DBP impacts not only the finite, transfinite and the infinite, but space, time, mass, energy and consciousness.

There is no separation of Time because the future or the past is happening in the present. Our conceptualization of relative non-locality from the framework of our living existence, restricted space-time, begins at this first multidimensional level, because it is at this level that events that should be separated in space may appear to be “immediate” or “simultaneous”.

Relative local non-locality

This kind of relative non-locality may be the most difficult to understand. This is so as the ostensible non-locality from the framework of space-time could speculatively be entirely contained within space-time. So surely it cannot be non-local in Space or Time? Maybe so, yet it is possible that it exists. For example, Dr Jim Carpenter in his 2012 book, *First Sight* has motivated in detail that “psi” is a normal form of communication that is regularly occurring before we speak, or we otherwise communicate.

The First Sight theory postulates that psi is an always occurring fundamental “normal” process⁸¹. It precedes not only regular communications but also thoughts and actions. We include it here, not only for completeness sake, but because the Carpenter First Sight hypothesis is well motivated, and could be argued to be legitimate. If so, extending what is local must be included as a form of RNL.

Relative local non-locality (RLNL) involves postulated non-local experiences as a routine part of part of our living experience in regular communication. In the First Sight model, psi occurs prior to the communication and involves possibly an extended “present time” involving psi as a regular phenomenon.⁸¹ This is clearly disputed but would imply relative non-locality occurring routinely and locally in space and time, except it precedes normal speech or non-verbal communication and it raises the specter of the accuracy of the term “non-local” in space. It would extend the “present” (1t) minimally in time, and therefore what is “local” in time would technically be non-local because the present becomes an extended present.

Relative pseudo non-locality

We use the term “pseudo” to describe those interpretations of RNL that are not RNL because they are non-local. The misinterpretations may be because of errors by the individual who subjectively incorrectly conceptualizes their experience through their specific “framework”. They could postulate the experience to appear to be non-local, but further scientific analysis would lead to an interpretation of “relative pseudo non-locality” (RPNL) that is purely contained in and relative to space-time. RPNL is not, of course, a single entity: Instead, it may have several diverse causes.

- Brain: It could be associated with cerebral causes or precipitators. Organic brain syndrome may commonly produce such misinterpretations.^{17, 87, 88} Sometimes this is complicated because certain patterns of brain functioning, such as particularly temporal lobe conditions⁶⁹⁻⁷¹, may allow patients to experience subjective realities that they may not otherwise have experienced.
- Psychopathology: The hallmark of psychosis, for example, involves misinterpreting reality, lack of insight in so doing, and distortions of what is self from what is not self. This could allow for misinterpretations for RNL: Commonly patients may regard their delusional thoughts or their hallucinations as due to “extrasensory perception” because the boundaries of their ego and reality are distorted or loose.
- Error: Alternatively, it may also be due to misinterpretations or erroneous conclusions about our reality. There may be no brain pathology or psychiatric conditions: People sometimes err as part of normal interpretation of living. This may, for example, be based on incomplete information or misunderstandings. These distortions too can produce for the framework of that individual’s subjective interpretation, the incorrect idea that the event is beyond space and time as they know it.

We should even descriptively prefix before the RPNL the kind, sub-classifying as, for example,

psychotic-, organic-, or misinterpreted- (or “erroneous”).

Global relative non-locality terms

We originally suggested 5 main sub-classifications of “relative non-locality” — the 4 key ones, and the subliminal one originally described by Neppe and Close ¹⁵. We then added 3 more esoteric kinds of RNL in this paper. We add now three more all-embracing descriptions, making up eleven RNL levels (Table 4).

Table 4: RNLs that are generic or not identified

Name	Pertinent Level	Example	Abbreviation
<i>The 3 non-specific RNLS</i>	<i>We don’t know the exact level or RNL</i>	<i>RNLs but difficult to define specifics</i>	
Relative <i>delta</i> non-locality	Ostensibly RNL	All of the above; includes pseudo, local or subliminal	RDNL
Relative <i>higher</i> non-locality	Specifically RNL but level unclear	Not pseudo, local or subliminal	RHNL
Relative <i>quantal</i> non-locality	Quantum physics extension	Several models including “entanglement”.	RQNL
<i>The 3 non-specific RNLS</i>	<i>We don’t know the exact level or RNL</i>	<i>RNLs but difficult to define specifics</i>	

(Abbr. = Abbreviation; NL is non-local, RNL = Relative non-locality; reference ⁴ indicates that this was previously described in RBC. ⁴; if not this is a new kind of RNL and these three are all proposed new RNLs.)

- **“Relative *delta* non-locality” (RDNL).** RDNL is still relative to space-time framework, but is used when we do not want to specifically categorize or are unable to categorize which kind of RNL category may be apposite. The term “delta” in this context is not new, but is not often used ⁸⁹: It is particularly useful in the context of discussing RNL, because sometimes we may not be able to classify the ostensible RNL into any category and we may not even be certain if it fits the classification at all. Is it, for example “pseudo”? How do we ensure that we are implying a form of communication, unconscious information transfer, or perception or other examples of cognition that allow for using RNL without prejudice? This is where Neppe’s term “delta” comes in. ⁸⁹ “Delta” does not reject the data on RNL and nor does it reject the data on its original use, the context of psi. Delta just allows us to suspend judgment as to any specific example, if we’re uncertain. So “*Relative delta non-locality*” (RDNL) allows us to describe something without applying premature causal interpretations.

- **“Relative higher non-locality” (RHNL)** When we can definitely realize that some level of relative non-locality exists, but still don’t know at what level that is, we use “Relative higher non-locality” (RHNL). So this is more specific than delta and incorporates what we sometimes call “psi” when that is not well delineated. “Relative higher non-locality” (RHNL) relative to the space-time framework, allows us to categorize data and events that involve higher Space, Time and Consciousness. Whereas RHNL definitely goes beyond the restrictions of space-time, it does not require interpreting whether the RNL level is just a movement in Time (RUNL), dimensional (RDNL), or transfinite (RTNL), or continuous infinite (RINL), or mystical (RMNL). We would anticipate this use being a very common non-prejudicial application of relative non-locality.

(Continued on Part VI)

References (See Part VII)

Exploration

On Non-locality VI: Immediacy & Hierarchies

Vernon M. Neppe* & Edward R. Close⁺

ABSTRACT

In this sixth and final article, we examine the applications of non-locality in physics to consciousness research, and use an example of the framework approach. We then apply the principles of non-locality recognizing how what we're calling "dimensional immediacy still applies", yet there may be limitations to Herbert's excellent "unmediated" and "unmitigated" principles for non-locality. We explain Herbert's "instantaneous connectivity" of objects, substances or events with our dimensional concept of "immediacy". We then recognize the limitations of the term "non-locality" and suggest relative distinctions instead: This may assist in our qualitative phenomenological descriptions and recognition of the hierarchically dissimilar.

Key Words: immediacy, hierarchies, calculus of distinctions, like with like, consciousness, relative, framework, non-locality, space-time, level, relative non-locality, dimension, beyond, infinity.

The many divisions and subdivisions of relative non-locality lead to a discussion on what is relative and to further insights into what is non-local. First, let's clarify the point about Relative Quantal Non-locality (RQNL). Where does physics fit into the consciousness research interpretation of relative non-locality?

The framework

Our discussion thus far has emphasized *how* information and meaning, space and time are *non-local relative to the framework of our experience—our sentient living reality of restricted space-time*. This is because we living beings experience reality in a specific way. There is a subtle difference between "relative to" and "from the framework of".

- "Relative to" is usually a perception of non-locality specifically relative to our perspective (usually space-time);
- "From the framework of" may also be space-time if we were describing something from our perspective; but it could also be described from a different level for an observer having, for example, a near-death experience, or an intense meditative experience. This

*Correspondence: Vernon M. Neppe, MD, PhD, FRSSAf, Director, Pacific Neuropsychiatric Institute, Seattle, WA; and Exceptional Creative Achievement Organization (Distinguished Professor); and Adj. Prof., Department of Neurology and Psychiatry, St Louis University, St Louis, MO. <http://www.vernonNeppe.org> E-mail: psyche@pni.org

⁺Edward R. Close. Research Associate, Pacific Neuropsychiatric Institute, Seattle, WA; and Distinguished Fellow, Exceptional Creative Achievement Organization.

might produce different subjective experiences relative to non-locality.

“From the framework of” therefore refers to the general location of the observer. For example, someone having an out of body experience may be experiencing reality from a different dimensional-domain perspective to someone in full physical consciousness (who is in space-time). “From the framework of” is similar to “relative to” only when referring to space-time, referring to our perspective of what would constitute non-locality. We perceive a non-local event relative to our experience which is space-time, but that is not the only option available. That is simply our framework of broader general observation.

Even more so, theoretically, the event might not be non-local relative to the framework of the consciousness of someone in a possibly very different state, such as surviving bodily death, or from the framework of a divinity, or during meditation. Whereas this differentiation may be speculative, it points to the need to differentiate different specific relative levels of experience. This differentiation may be pertinent: A mystical infinite event may be relatively non-local for both a near-death experient framework and someone in clear (physical space-time) consciousness. But a postulated Creator observing from the “framework of the mystical” may not experience any events in the hierarchy, such as Space, Time and Consciousness occurring within the 9 dimensional substrates, the transfinite, or even infinity, as non-locality.

By contrast, specific living individuals in clear consciousness would regard that same event as non-local relative to themselves. In summary, there is less relative non-locality as one ascends higher in the hierarchy. And the property linked with it, immediacy of information, of space and of time, still reflects relative non-locality: Even when a meditator *experiences subjectively* no time or place, it *does not mean Time and Space does not exist* in a higher dimension. Under that circumstance, the meditator might subjectively experience information, space and time as “beyond” or “non-existent”.

But we, in clear living consciousness, cannot generally also experience higher dimensions, the transcendent, or the mystical. But a so-called “psychic” may experience an immediate access to a vision thousands of miles away and in the future. Time and space for them would be meaningless as well, though still existing in their covert reality. But it explains why such a “psychic” may have difficulty translating their intuitive impression into space-time space-time frameworks. Or we’re able to understand why communication with the allegedly deceased may be far more complex than a simple telephone call because the latter may be over space and time, but it involves the same common dimensions of space-time-consciousness. This is an important application of the framework model of RNL.

Illustration not proof in this theoretical model

In essence, let’s apply a non-prejudicial creative approach: We’re not trying to prove, just illustrate. What is non-local from our living human framework may not be non-local for someone who was deceased. That decedent might be experiencing existence from the *framework of* different dimensional domain levels. Furthermore, it might be that each decedent even has a framework of reference different from another deceased individual—each could be experiencing

potentially even different transfinite or dimensional domains to other “discarnate entities” as well as from the physically living. These dimensional domains may be more fluid, fluctuating in state and trait depending possibly on developmental level. It would not make their experience any wiser, just different. They are still limited to appreciating finite dimensional or transfinite domains *relative to their framework as specific kinds of observers*, and not experiencing the whole infinite.

What about near-death experiencers? Their framework might be very different, too. They may be using a different reference source. Perhaps even what to us are regular space-time events are now relatively non-local from their framework. They cannot, for example, communicate by regular speech during their NDE. “Relative to” becomes different because their reference framework has changed.

Similarly, this is why someone having an out of body experience may experience a very different framework, as may experiencers in the many different altered states of consciousness, be they hallucinogen induced, dreams or meditative, for example. *The key point is “non-locality” is not only relative to one’s experience but perceived, conceptualized and interpreted by distinguishing what one recognizes as genuine for oneself*: We apply frameworks that differ dramatically potentially depending on our state (like meditation) and trait conditions (like survival after death). The relationship of such experiences to space-time, and the additional domains, demonstrated mathematically by our multidisciplinary multidimensional TDVP model remains an important area for further fruitful research.

One or more of these research areas, may or may not turn out to be the same relative non-locality that has pertinence in psi. Effectively, we’ve emphasized locality, but the causality (e.g. out of body experiencer, or meditator) is different and may be linked with different causes.

Principles of non-locality

The principle of higher dimensional immediacy

We amplify now the important principle we have implied: Immediacy is the hallmark of non-locality. We suggest that the common element to these higher levels of relative non-locality beyond space-time is the *immediacy* of the phenomenon. This has been the difficulty with the interpretation of the ostensible paradox that we call “entanglement” when we apply the space-time principles of the Standard Model of Physics. It is immediate and does not even require light speed. This reflects the key indicator that we postulate must necessarily involve higher dimensions.

The Herbert model

However, even if entanglement can be explained as relatively non-local from the framework of space-time, it does not imply that the causes of quantum entanglement and psi in its many guises are related. Herbert⁹⁰ and following that Dossey⁹¹ have used similar nomenclature to us the definitive element is the immediacy—“instantaneous connectivity” of objects, substances or events. One could speculate on Herbert’s idea that non-locality is necessarily “unmediated” (with

no connecting signal involved), and “unmitigated” (where the strength of the correlations do not fade with increasing distance). If these are pertinent, they would still be relative to our experiences.⁹⁰

“Unmediated” without connecting signals may easily be explained using the RHNL model: At the higher relative non-locality level everything is one; therefore, there is no need for a connecting signal because all exists.

“Unmitigated” in the context of absence or loss of signal becomes an irrelevancy, because at some RHNL level the transmission is the same—it would be like a hand connected to the shoulder except at a higher dimensional level.

Imagine that space-time is purely experiential, but doesn’t reflect all of reality existence. Therefore when we refer to absent losses of signal this is relative to space-time: it is unmitigated relative to space-time but not necessarily 9D unless the non-locality is at a higher level. Similarly yes at space-time, events happening at a higher dimensional level appear unmediated because there is no connecting signal involved. But imagine a person with a connection of the thumb with the little toe is mediated in space-time. But when connecting signals are above space-time but still in a 9D world where only space-time was accessible, any higher connection appears to be unmediated relative to space-time. We believe this is an important mechanism for so-called psi phenomena because they are relatively non-local from the framework of space-time experience.

Nevertheless, these three concepts, Herbert’s unmediated, unmitigated and the Neppe-Close immediacy in Space, Time and Consciousness (likely equivalent to Herbert’s “instantaneous connectivity”) all need some empirical support. The equivalent of unmediated and unmitigated data in parapsychology has been very difficult to interpret.⁴ Technically, the studies on so-called inverse square data in psi— lesser effect versus distance are difficult. It may be supported but complicated by emotionality.⁴ The difficulty is because whereas such concepts can be analyzed for feasibility, they cannot easily be falsified because they require access to higher dimensions. The concept of Lower Dimensional Feasibility in the Absence of its Falsifiability (LFAF) is needed for scientific evaluation of such information.⁴ Entanglement relates primarily to measurement of discrete phenomena: These are the endpoint measurable particles and waves as calculated by extent in space-time; when measured they’re discrete, but these measures may miss part of the picture— the higher dimensional components.

But phenomena, we postulate, continue into dimensions that we are not directly able to measure. We cannot measure much of the hidden parts of space-time, we cannot measure the hidden aspects of components of a 9 dimensional domains—9D spin does not imply all 9 dimensions are active, but some might be; we cannot measure except ordinally the transfinite; and we recognize in the infinity the Cantorial infinity of infinities.¹⁰

Mathematically, there are an infinite number of lines in a 3-D object and when we extend this to higher dimensions, there are always an infinite number of dimensional domains containing objects one dimension below, and this continues creating its own infinity of the infinities but this time in a quantized, discrete reality.⁴ This is why we propose this principle of higher

dimensional immediacy, because mathematically applying dimensional measurements it works, producing a comprehensive explanatory framework for non-locality.

Therefore, we argue that certain rules can be elicited and propose an important one:

Immediacy is indicative of higher dimensionality. It is not in any way delayed. But this immediacy is *relative to the specific dimensional domain being examined and in the framework of being analyzed in restricted space-time*. Importantly, immediacy may also be relative and not found to be so at higher dimensional levels. We must apply information relative to the specific framework and this may differ.

The limitations of the term non-locality: Local versus non-local

The terminology issue is important:

Non-locality:

We know the term “non-locality” without a prefix such as “relative” is very limiting. “Non-locality” alone is inappropriate when used without the prefix “relative” because we may make inappropriate comparisons: Neppe has repeatedly emphasized the need for “like must be compared with like”^{6, 16, 17} and therefore clumping all components together into one classification is inappropriate.

Local:

But what about “local”? Local is sometimes used more broadly than just describing a locality in space (a place). A mathematical example is when we talk about “spaces, or space-like domain descriptors” as in String Theory, we’re not necessarily referring only to Space as we experience it in space-time, but we may include other parameters, such as Time, rotation, spin, quantum state, and content, such as the mass and energy in particles.

We use “locality” sometimes for time and consciousness, too, particularly when we apply it in the negative such as “non-local”⁴ so it’s more than just local in space.

In psi, researchers have used the term “non-locality” differently from physics and even in psi, recognize its ubiquitous applications: Invariably, the non-local has consciousness elements, and it may involve a certain *simultaneity in time as well as distance in space—the “immediacy”*.⁹²

Alternative terms

These limitations lead to ideas about using alternative terms:

Non-locality in sentient beings in space-time eventually becomes “local” and so does not remain non-local all the time: What was “non-local” still expresses itself by measurement or in the brain—a very local measure: It is a discrete phenomenon where wave and particles can be measured and that measurement at that level is local. So “Non-local” is in every instance relative to the observer, but also the non-local is registered locally in the consciousness including specific brain or brains, implying, again, “Relative non-locality with endpoint of locality.”

So non-local is only partly non-local and we must understand that ultimately it becomes local in space (when registered in the brain).

There are also problems with the “negation” of “non”. This is not necessarily a positive expression. A science in its early stages should say what it does, not what it does not do.

We prefer terms that are specific: This is why we have suggested an extensive list of terms that make up *relative non-locality*. Non-locality becomes meaningless unless it is relative to a specific base such as space-time, and seen from a specific framework. Failing that we will conceptualize correspondences when they do not exist; we would inappropriately classify “like with unlike”, and not just “like with like”. In Table 3, we illustrate how some of the subgroups that might be thought of as “relative non-locality” are not really “non-local”, such as RNL of pseudo, subliminal, and “local” types: It would be much easier if we applied a method for making such distinctions. We can mathematically quantify distinctions by applying the Calculus of Distinctions developed by Ed Close and amplified by Close and Neppe.^{65 4} Therefore, we regard the term “relative distinctions” (last column) as more accurate and easier to conceptualize, not only mathematically, but also based on phenomenological analyses of Devereux⁹³ and then Neppe⁹⁴.

In this regard we return to an earlier paper of one of the authors. Neppe⁹⁴ accentuated the different levels of familiarity of George Devereux.⁹³ He proposed that there are different levels of familiarity: Neppe⁹⁴ pointed out that this ranges from “chance” phenomena, to “quasi” phenomena involving brain dysfunction either organically or psychologically. Then it could be the latent phenomena where one’s breadth of awareness is heightened. The next level would be “parafamiliarity” where effectively one was experiencing or demonstrating a level of psi that involves heightened perception of phenomena^{93, 94}, but still could be explained within the modification of the laws of current physics, to the “metafamiliar” levels at the transcendent and transfinite levels and also the various levels of infinity.^{6, 16, 17, 94-96} This changed thought from a “*minimalistic parapsychological*” approach to a “*radical parapsychological*” perspective where survival after bodily death is incorporated into the theoretical model.⁹⁷ And when uncertain we used the term “delta”⁸⁹ as in “delta-familiarity”. We could further apply the complex mathematical format of “calculus of distinctions” allowing a mathematical logic to replacing non-locality with “distinction”⁶⁵.

Perspective

Where do we go from here?

- First, we have described a hierarchy of levels of non-locality:
 - We need to carefully analyze and define what we’re describing.
 - We need to recognize that, at times, all one is doing is distinguishing what is relatively non-local, but not stipulating the level of the non-locality. For example, we might interpret the event being analyzed as a ‘presentiment’, but may be unsure that this may not have been a statistical or methodological aberration

because it might not even be “non-local”, even when so interpreted.

- Therefore, we need to recognize possible error and so may provisionally be calling it RDNL (relative “delta” non-locality).
 - However, if we knew it was “relatively non-local”, not pseudo or subliminal or local, for example, it would be regarded as Relative Higher Non-locality (RHNL).
 - We recognize that there are multiple different and distinct and critically important levels of “non-locality”. These are experienced from the *framework* of the observer and the different relative levels are important to phenomenologically differentiate.
- Second, we have proposed that:
 - The key distinguishing feature of this Higher Non-locality is the “immediacy”. This takes us out of the space-time level allowing for this one critical element of non-locality.
 - Effectively, this may be an important theoretical application namely “immediacy implies higher dimensionality”.
 - Once we have moved above the space-time level, the one critical element of non-locality becomes “immediacy implies higher dimensionality”.
 - Immediacy is at a different level and does not imply speed-of-light communication: It’s literally immediate because it is part of, for example, a multidimensional (like 9-dimensional) gestalt. It’s like one’s arms being connected to one’s legs: No travel is needed.
 - Immediacy is enormously pertinent because we living humans may easily fall into the trap of thinking something is “beyond space and time” —non-local when it is simply not part of our experience, but is part of our whole existence.
 - Third, we have differentiated:
 - How the prefix “relative to” describing a specific event, and
 - “From the framework of” describing the general level of the observer.
 - We always need to qualify phenomenological information, with statements like: “This is from the framework of living sentient beings in clear consciousness.” The experiences are conceptualized *from that framework* as ‘relatively dimensionally non-local’ ”.
 - This way we make distinctions between our subjective interpretations of the experiences, and, in this instance, the possible 9-dimensional reality.
 - Essentially, non-locality is not an explanation: When used without amplifiers—meaningful descriptive adjectives—it is simply an ambiguous non-specific attempt at phenomenological description and without further definitions such as “relative to” and “from the framework of” it becomes a rationalization of irrelevance.
 - And fourthly, there are problems with the term “non-locality” when used in isolation, yet we continue to use it despite the semantic problems:
 - its different uses in physics and consciousness research might lead to ambiguity;

- the “non” makes it a negative and not a positive concept;
- the endpoint of *non*-locality in living humans is *local* in the brain; and
- more seriously, using just “non-locality”, as opposed to “non-locality relative to a specific event or level”, different phenomena might be incorrectly classified and analyzed with other non-local occurrences because their different relative non-locality levels may not be recognized. In contrast, like events and phenomena may not necessarily be classified with other such occurrences at the same conceptual level”.

One logical descriptor, because there is mathematical support, would be “relative distinctions” and such alternative terminology may turn out useful.

Essentially, we argue that “non-local” events require further descriptors for us to understand the *degree* of non-locality. We need to conceptualize events from the *framework* of the specific observer. This suggests three critical factors: *Relative to*, *from the framework of*, and *a hierarchy of “to what degree?”* “Non-locality” without the prefix “relative” compromises its description by making it an absolute: We must scientifically ensure that, qualitatively, we can describe events that correspond with each other—like with like, and differentiate these events from those that are hierarchically dissimilar. Recognition of these levels of “relative non-locality” is important: Non-locality from “the general framework of” the infinite, or mystic or near-death experient, markedly differs theoretically from “relative to our sentient reality in 3 dimensions of space in the present moment (space-time)”. Specific events may be described “relative to” our living space-time reality, but conceptualized differently from the framework of observers in altered states of consciousness experiencing higher dimensions.

Hierarchical questions to ask would include:

- Is the non-locality “pseudo”: simply communication that some but not others detect through extending our usual communications? Or is it still local “subliminal” communications? Or is it undetectable by humans, yet detected by some animals or machines? Or are psychological or brain happenings misinterpreted as non-locality?
- Is the non-locality impacting higher dimensional hidden realities?
- Is it at the countable infinite —*transfinite*—level?
- Or does the non-locality happen at the infinitely continuous reality?
- Or at the highest level of that infinite—the mystical?
- Is the non-locality linked with theories in physics, such as quantal entanglement or the many other postulated causes? Relative non-locality in physics is likely different from non-locality in Consciousness Research.

Overriding all this is the immediacy principle—events happening immediately, not even requiring light-speed, are fundamental properties of non-local time involving more dimensions than just space-time.

References (See Part VII)

Exploration

Relative Non-locality - Key Features in Consciousness Research - On Non-locality VII: References Cited in Non-locality I, II, II, IV, V & VI

Vernon M. Neppe* & Edward R. Close⁺

ABSTRACT

This part contains the references cited in Non-locality I, II, II, IV, V & VI.

Key Words: reference, consciousness, relative, framework, non-locality, space-time, level, relative non-locality, dimension, beyond.

Acknowledgements: We wish to acknowledge the assistance of Shauna Mason, Neil McNeill, Dean Radin, Jacqueline Slade and Suzan Wilson, and the permission of the Pacific Neuropsychiatric Institute, Seattle to publish one part of this series of articles which is rewritten for this journal.

References

1. Neppe VM, Close ER. *Reality Begins with Consciousness (RBC) — Glimpses and Glossary* 2nd ed. Seattle, WA: Brainvoyage.com; 2014.
2. Neppe VM, Close ER. Relative non-locality and the infinite. *Reality begins with consciousness: a paradigm shift that works (5th Edition)*. 5th ed. Seattle, WA: Brainvoyage.com; 2014:376-379.
3. Neppe VM, Close ER. The concept of relative non-locality: Theoretical implications in consciousness research. *Explore (NY): The Journal of Science and Healing*. March 2014 (In press);12: 07(1).
4. Neppe VM, Close ER. *Reality begins with consciousness: a paradigm shift that works (5th Edition)*. Fifth ed. Seattle: Brainvoyage.com; 2014.
5. Tressoldi PE. Extraordinary claims require extraordinary evidence: the case of non-local perception, a classical and Bayesian review of evidences. *Frontiers in Psychology*. 10 June 2011. 2011;2(117):1-5.
6. Neppe VM. Phenomenological consciousness research: ensuring homogeneous data collection for present and future research on possible psi phenomena by detailing subjective descriptions, using the multi-axial a to z SEATTLE classification. *Neuroquantology*. 2011;9(1):84-105.
7. Schwartz SA. Nonlocality and exceptional experiences: a study of genius, religious epiphany, and the psychic. *Explore (NY)*. Jul-Aug 2010;6(4):227-236.
8. Schwartz SA. Six protocols, neuroscience, and near death: An emerging paradigm incorporating nonlocal consciousness. In: Fredriksson I, ed. *Aspects of Consciousness: Essays on Physics*. Vol 2. Jefferson, NC: McFarland; 2014 (in press).

*Correspondence: Vernon M. Neppe, MD, PhD, FRSSAf, Director, Pacific Neuropsychiatric Institute, Seattle, WA; and Exceptional Creative Achievement Organization (Distinguished Professor); and Adj. Prof., Department of Neurology and Psychiatry, St Louis University, St Louis, MO. <http://www.vernonNeppe.org> E-mail: psyche@pni.org

⁺Edward R. Close. Research Associate, Pacific Neuropsychiatric Institute, Seattle, WA; and Distinguished Fellow, Exceptional Creative Achievement Organization.

9. Neppe VM, Close ER. A Proposed Theory of Everything that works: How the Neppe-Close Triadic Dimensional Distinction Vortical Paradigm (TDVP) model provides a metaparadigm by applying nine-dimensional finite spin space, time and consciousness substrates and the transfinite embedded in the infinite producing a unified reality. *IQNexus Journal*. 2014;16(3):1-54.
10. Cantor G, ed. *Contributions to the founding of the theory of transfinite numbers*. New York: Dover; 1955. Jourdain P, ed.
11. Neppe VM, Close ER. Brief glossary of key terms *Reality begins with consciousness: a paradigm shift that works (5th Edition)*. 5th ed. Seattle, WA: Brainvoyage.com; 2014:lxiv-lxxiv.
12. Neppe VM, Close ER. The Triadic Dimensional Distinction Vortical Paradigm (TDVP): The nine-dimensional finite spin metaparadigm embedded in the infinite *Dynamic International Journal of Exceptional Creative Achievement* 2014;1401(1401):4001-4041.
13. Morgart E. The theory of everything has nine dimensions: The sparkling diamond and the quanta jewel turn quantum physics and the nine-pronged world of consciousness— on its ear. *USA Today Magazine*. January 2014(1 (January)):66-68.
14. Close ER, Neppe VM. The Cabibbo mixing angle and other particle physics paradoxes solved by applying the TDVP multidimensional spin model. *IQNexus Journal*. 1 March 2014 14(1):13-50.
15. Neppe VM, Close ER. TDVP: a paradigm shift that works —how the Triadic Dimensional Distinction Vortical Paradigm challenges conventional scientific thinking and explains reality. *Telicom*. 2014;27(1):24-42.
16. Neppe VM. Anomalistic experience and the cerebral cortex. In: Krippner S, ed. *Advances in Parapsychological Research* 6. Vol 6. Jefferson, N.C.: McFarland; 1990:168-183.
17. Neppe VM. Neurobiology, brain reductionism and subjective experience. In: Krippner S, Friedman H, eds. *Mysterious Minds: The Neurobiology of Psychics, Mediums and other Extraordinary People*. Westport, CT: Greenwood Press and Praeger Publishers; 2009:Chapter 7, 129-150
18. Close ER, Neppe VM. Mathematical and theoretical physics feasibility demonstration of the finite nine dimensional vortical model in fermions. *Dynamic International Journal of Exceptional Creative Achievement* 2013;1301(1301): 1-55.
19. Harris K. Collected quotes from Albert Einstein. <http://rescomp.stanford.edu/~cheshire/EinsteinQuotes.html>. Accessed 8/10/2011.
20. Einstein A. *Physics and Reality*. <http://www.kostic.niu.edu/>; Monograph; 1936.
21. Einstein A. Fundamental Ideas and Methods of the theory of Relativity, Presented in Their Development *Papers*. 1920 7(31).
22. Einstein A. *Relativity, the special and the general theory—a clear explanation that anyone can understand*. London: Routledge and Kegan Paul; 2001.
23. Aczel AD. *Entanglement: the greatest mystery in physics*. New York: Four Walls Eight Windows; 2001.
24. Aspect A, Grangier P, Roger G. Experimental realization of Einstein-Podolsky-Rosen-Bohm Gedanken experiment: a new violation of Bell's inequalities. *Physical Review Letters*. July 12 1982;49(2):91-94.
25. Bell JS. On the Einstein Podolsky Rosen paradox. *Physics*. 1964;1:195-200.
26. Zimmerman Jones A. Hawking and Hertog: String Theory can explain dark energy. <http://physics.about.com/b/2006/06/20/hawking-hertog-string-theory-can-explain-dark-energy.htm>, June 20, 2006.
27. Suarez A, Scarani V. Does entanglement depend on the timing of the impacts at the beam-splitters? *Physics Letters*. 1997;232(390): 9-14
28. Vedrai V. Living in a quantum world. *Scientific American Magazine*. 2011(5 (May)):38-43.
29. Aharonov Y, Bohm D. Significance of electromagnetic potentials in quantum theory. *Physical Review*. 1959(115):485–491.

30. Rouse Ball WW. "*Joseph Louis Lagrange (1736–1813)" A Short Account of the History of Mathematics*. 4th ed. CA, USA: Dover Books on Mathematics (University of California E-book); 1908.
31. Pippard AB. Trapped Flux in Superconductors. *Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences* 1955;248(941):97–129.
32. Pippard AB. Quantization of Coupled Orbits in Metals II. The Two-Dimensional Network, with Special Reference to the Properties of Zinc *Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences*. 1964;256(1072):317–355.
33. Hall A. Soap opera. *Scientific American*; 1998.
34. Beichler JE. The five-dimensional continuum approach to a unified field theory. *Journal of Paraphysics*. 1999(2):101-203.
35. Zee A. *Quantum field theory in a nutshell*. Princeton: Princeton University Press; 2003.
36. Einstein A. *Relativity, the special and the general theory*. 15 ed. New York: Crown Publishers; 1952.
37. Einstein A. *The Born-Einstein Letters; Correspondence between Albert Einstein and Max Hedwig Born from 1916 to 1955*. New York: Walker; 1971.
38. Einstein A, Podolsky B, Rosen N. Can quantum-mechanical description of physical reality be considered complete? *Phys. Rev.* 1935;47(10):777-780.
39. Wheeler JA. Delayed-choice experiments and the Bohr-Einstein dialogue. In: APS, (UK) R, eds. *The American Philosophical Society and the Royal Society: papers read at a meeting, June 5, 1980*. Philadelphia: American Philosophical Society; 1980:9-40.
40. Wheeler JA. Beyond the black hole. In: Woolf H, ed. *Some strangeness in the proportion*. Reading: Addison -- Wesley; 1980:341-375.
41. Wheeler JA, Feynman RP. Interaction with the absorber as the mechanism of radiation. *Reviews of Modern Physics* 1945;17(2-3):157–161.
42. Wheeler JA, Feynman RP. Classical electrodynamics in terms of direct interparticle action. *Reviews of Modern Physics*. 1949;21(3):425–433.
43. Close ER. The earth is expanding. *Telicom*. 2011;24(1):20-29.
44. Eddington A. *The expanding universe: astronomy's 'great debate', 1900-1931*. Cambridge: Press Syndicate of the University of Cambridge; 1933.
45. Owen HG. The earth is expanding and we don't know why. *New Scientist*. 1983;22:27-29.
46. Dyson F. Beyond the black hole. *Reviews of Modern Physics*. 1979;51(3):447-460.
47. Guth AH. *The inflationary universe*. Reading: Perseus Books; 1997.
48. Stapp HP. Quantum physics and the physicist's view of nature: philosophical implications of Bell's Theorem. In: Kitchener RE, ed. *The world view of contemporary physics*. Albany, NY SUNY Press; 1988.
49. Stapp HP. The hard problem: a quantum approach. In: Shear J, ed. *Explaining consciousness—the hard problem*. Cambridge MA: The MIT Press; 2000:197-215.
50. Stapp HP. *Mindful universe: Quantum mechanics and the participating observer*. New York Springer-Verlag; 2007.
51. Bohm D. *Wholeness and the implicate order*. London: Routledge; 1980.
52. Bell JS. How to teach special relativity. *Speakable and unspeakable in quantum mechanics*. Cambridge: Cambridge University Press; 1987:67-80.
53. Leggett AJ. Nonlocal hidden-variable theories and quantum mechanics: An incompatibility theorem. *Foundations of Physics*. 2003;33:1469-1493.
54. Bell J. Free variables and local causality. *Epistemological Letters* February 1977;15(2):15.
55. Radin DI. *Entangled minds: extrasensory experiences in a quantum reality*. New York: Simon & Schuster (Paraview Pocket Books); 2006.
56. Anonymous. Quantum entanglement. http://en.wikipedia.org/wiki/Quantum_entanglement.

57. Bokulich A, Jaeger G. Philosophy of quantum information and entanglement. Cambridge: Cambridge University Press; 2010: <http://dx.doi.org/10.1017/CBO9780511676550>. Accessed.
58. Bell JS. On the problem of hidden variables in quantum mechanics. *Reviews of Modern Physics*. 1966;38(3):447-452.
59. Tittel W, Brendel J, Zbinden H, Gisin N. Violation of Bell's inequalities by photons more than 10 km apart. *Physical Review Letters*. 1998;81:3563-3566.
60. Neppe VM, Close ER. EPIC consciousness: A pertinent new unification of an important concept. *Journal of Psychology and Clinical Psychiatry*. 2014 2014;1: 00036(6):1-14.
61. Newton I. Letter to Richard Bentley. <http://scienceau.com/>. Accessed 2014, 2014.
62. Kafatos M, Nadeau R. *The Conscious Universe: Parts and Wholes in Physical Reality*. New York, NY Springer; 2000.
63. Nadeau R, Kafatos M. *The Non-Local Universe: The New Physics and Matters of the Mind*. New York, NY Oxford University Press; 1999.
64. Neppe VM, Close ER. *Reality Begins with Consciousness (RBC)—Key Features*. 2nd ed. Seattle, WA: Brainvoyage.com; 2014.
65. Close ER, Neppe VM. The Calculus of Distinctions: A workable mathematicologic model across dimensions and consciousness. *Dynamic International Journal of Exceptional Creative Achievement* 2012;1210(1210):2387 -2397.
66. Neppe VM, Close ER. *Reality begins with consciousness: a paradigm shift that works (First Edition)*. 1 ed. Seattle: Brainvoyage.com; 2012.
67. Popper K. *Conjectures and refutations*. London: Routledge and Keagan Paul; 1972.
68. Popper KT. *The logic of scientific discovery*. London and New York: Routledge / Taylor and Francis e-Library; 2005.
69. Palmer J, Neppe VM. A controlled analysis of subjective paranormal experiences in temporal lobe dysfunction in a neuropsychiatric population. *Journal of Parapsychology*. 2003;67(1):75-98.
70. Palmer J, Neppe VM. Exploratory analyses of refined predictors of subjective ESP experiences and temporal Lobe Dysfunction in a neuropsychiatric population. *European Journal of Parapsychology*. 2004;19:44-65.
71. Neppe VM. Temporal lobe symptomatology in subjective paranormal experients. *Journal of the American Society for Psychical Research*. 1983;77(1):1-29.
72. Reifler F, Morris R. Prediction of the Cabibbo angle in the vector model for electroweak interactions. *J. Math. Phys*. 1985;26(8):2059-2066.
73. Neppe VM CE. The most logical Psychology: The “vertical” approach” to the transcendental and Transpersonal Psychology in the TDVP context: Part 4. *IQNexus Journal*. 2014;15(2):25-38.
74. Van der Schaar JP. Kaluza Klein theory. <http://www-th.phys.rug.nl/~schaar/htmlreport/node12.html>.
75. Brax P. The supermoduli space of Matrix String Theory. <http://cdsweb.cern.ch/record/411941/files/9912103.pdf>, 2011.
76. Schwarz P. The official string theory website: Basics. <http://www.superstringtheory.com/basics/index.html> and <http://www.superstringtheory.com/forum>.
77. Kiritsis E. *String theory in a nutshell*. Princeton: Princeton University Press; 2007.
78. Figueroa-O'Farrill JM. String theory in a nutshell. <http://www.strings.ph.qmw.ac.uk/WhatIs/Nutshell.html>.
79. "Nineteenthly". Silicon based life (You-tube). 15 March 2013; <https://www.youtube.com/watch?v=IBwB54OT2xI>.
80. Gould SJ. Nonoverlapping magisteria. *Natural History*. 1997;106(March):16-22.
81. Carpenter J. *First Sight: ESP and parapsychology in everyday life*. Lanham, MD: Rowman & Littlefield; 2012.

82. Anonymous. Develop psychic abilities subliminal. <http://www.subliminalmp3s.com/subliminal-develop-psychic-abilities>. Accessed 2014, 2014.
83. Editor. UK Synaesthesia Association. <http://www.uksynaesthesia.com/>, 2014.
84. Anonymous. Synaesthesia. <http://www.youramazingbrain.org/brainchanges/synaesthesia.htm>, 2014.
85. Anonymous. Amazing animal senses that humans do not have! <http://zumaworld.blogspot.com/2010/10/amazing-animal-senses-that-humans-do.html>. Accessed 23 October, 2010.
86. Anonymous. Electromagnetic hypersensitivity – symptoms, prevention and recovery. <http://www.best-emf-health.com/electromagnetic-hypersensitivity.html>, 2014.
87. Neppe VM. Clinical and forensic applications of the SOBIN (Subtle organic brain inventory of Neppe) with the INSET (Inventory of Neppe of symptoms of epilepsy and the temporal lobe). *J Neuropsychiatry and Clinical Neurosciences*. 2014 (In press);26(2).
88. Neppe V, Chen A, Davis JT, Sawchuk K, Geist M. The application of the screening cerebral assessment of Neppe (BROCAS SCAN) to a neuropsychiatric population. *J Neuropsychiatry Clin Neurosci*. 1992;4(1):85-94.
89. Neppe VM. Extrasensory perception--an anachronism and anathema. *Journal of the Society for Psychical Research*. 1984; 52(798 Oct):365-370.
90. Herbert N. *Quantum reality*. Garden City, NY Anchor/Doubleday; 1987.
91. Dossey L. Nonlocal mind: A (fairly) brief history of the term. *Explore (NY)*. 23 December 2014 2014;12:001.
92. Neppe VM CE. Integrating psychology into the TDVP model. *IQNexus Journal*. 2014;15(2):7-38.
93. Devereux G. Extrasensory perception and psychoanalytic epistemology. . In: Devereux G, ed. *Psychoanalysis and the Occult*. London: Souvenir Press; 1974.
94. Neppe VM. A multiaxial classificatory system for anomalous experience. *Parapsychological Journal of South Africa*. 1985;6(1):57-72.
95. Neppe VM, Close ER. Applying consciousness, infinity and dimensionality creating a paradigm shift: introducing the triadic dimensional distinction vortical paradigm (TDVP). *Neuroquantology*. 2011; 9(3 (Sept)):375-392.
96. Neppe VM. Models of the out of body experience: a new multi-etiological phenomenological approach. *Neuroquantology*. 2011;9(1):72-83.
97. Neppe V. Why parapsychology is amongst the most important of the sciences. *Australian J of Parapsychology*. 2005;5(1):4-22.