

## Exploration

# On Non-locality I: Relative Non-locality

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### 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 <sup>b</sup>, but it has also

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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. <sup>1</sup> The chapter motivated the initial idea of relative non-locality and recognized different frameworks. <sup>2 a</sup> 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.

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<sup>b</sup> 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).<sup>c</sup>

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*<sup>4</sup> 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*”

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<sup>c</sup> 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.*"<sup>5</sup> 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.<sup>d</sup>

The most common current related phrases in physics are "quantum non-locality" and "entanglement".<sup>6</sup> However, this paper focuses on the second discipline at this point, a statistically less common use<sup>a</sup>, 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)<sup>5</sup>. There are, indeed, now many who use "non-local" as a prefix to substitute for many different kinds of psi phenomena.<sup>7, 8</sup> 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<sup>9</sup>, 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.<sup>4</sup> One such concept implies *levels of discrete* dimensions. At the highest level is the so-called "transfinite" —Cantor's "countable

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<sup>d</sup> 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”<sup>10</sup>: 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.<sup>4</sup> At the highest level of that “*continuous infinite*” would be the “*infinity of infinities*” as Georg Cantor<sup>10</sup> 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.<sup>2, 11</sup> 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 dimensions<sup>12-15</sup>. 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<sup>6, 16, 17</sup> 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”.<sup>6</sup>

## 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*.<sup>4</sup> 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<sup>9, 12, 14, 18</sup>, 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*<sup>4</sup>.
- 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.<sup>4</sup> 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)