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# Truth through Nonviolence\*

P. Venkata Rayudu

*"Woman is the incarnation of ahimsa." — M.K. Gandhi*

**Abstract:** What is reality? How do we know? Answers to these foundational questions of ontology and epistemology, based on Mahatma Gandhi's "experiments with truth", are: reality is nonviolent (in the sense of not-inconsistent), and nonviolence (in the sense of respecting-meaning) is the only means of knowing (Gandhi, 1940). Be that as it may, science is what we think of when we think of reality and knowing. How does Gandhi's nonviolence, discovered in his spiritual quest for Truth, relate to the scientific pursuit of truth? Here we show that Gandhian nonviolent knowing of nonviolent reality is an abstraction of both individual knowing (looking, reasoning) and collective scientific knowing (measurements, calculations). Specifically, Gandhi's truth-through-nonviolence is a law-like summation of the methods of physics ("do not disturb" of measurements) and of mathematics ("do not tear" of calculations) that are used to know. Moreover, physics (with its lawful behaviour of bodies) and biology (in preserving the meaning of genetic code) do affirm that the defining attribute of reality is nonviolence. In light of these correspondences, the Mahatma's derivation of a universal method of knowing (nonviolence of preserving-structure) from a universal truth (nonviolence of consistent-becoming) constitutes a science-supported general theory of reality and knowing.

**Keywords:** *Ahimsa*, biological reproduction, calculation, cognition, epistemology, Mahatma Gandhi, measurement, nonviolence, ontology, reality, science.

## Introduction

Truth and nonviolence are, in the words of Gandhi, "as old as hills"

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(Gandhi, 1936). They are also light years apart, rarely making contact in ordinary or scientific conceptual space. This state-of-affairs changed for good, thanks to Gandhi's reflective life of experimentation (Gandhi, 1940). In an intellectual tour de force, Mahatma Gandhi brought to figural salience, for all to see, the propinquity between truth and nonviolence: "*Ahimsa* is the means; Truth is the end" (Gandhi, 1955: 35). The simple terms with which Gandhi expressed the conceptual kinship between *Truth* and *Nonviolence* helped one and all to see the quintessence of his thinking; but the surface simplicity, not unlike that of Einstein's  $E = mc^2$ , is not that revealing of the metaphysical depths of the Mahatma's meditations. Simply put, what does it mean to say, as Gandhi often said, "the way to Truth lies through *ahimsa*". Our attempts to unravel led us to recognize Gandhi's insights into Truth and *ahimsa* as reflective of an understanding of reality and knowing that subsumes scientific accounts spanning across physics, biology, cognition, and mathematics. We begin, so as to facilitate proper appreciation of the vast reach of Gandhian thought, with an overview of Gandhi's nonviolence. Next we examine Truth, meaning, as Gandhi noted, "that which is" (CWMG, 48: 405), which helps us see the nonviolence of knowing — of looking, reasoning, physical measurements, and mathematical calculations — in accord with Gandhi's conceptualization.

### Gandhi's Nonviolence

There are two conceptualizations of nonviolence: (1) nonviolence before Gandhi, and (2) nonviolence after Gandhi. The *ahimsa* of ancient India, as it was preached and practised, was that of individual virtue valued and promoted on moral grounds. It is the nonviolence of "do not kill", of "go vegan", and of love and peace. Gandhi transformed this moral principle into a mode of action that both individuals and institutions can use as a means to achieve just ends (Rao, 2011). Gandhi's practical applications of nonviolence, which have been instrumental in bringing about India's Independence, have been duly recognized as a work of genius (Gardner, 1993). No less a work of genius is his prophetic interpretation of *ahimsa* as an ideal means of knowing.

Gandhi found *ahimsa* in searching for Truth (in the sense of SATYA or reality): He said: ". . . I do claim to be a passionate seeker after Truth. . . . In the course of that search, the discovery of nonviolence came to me" (CWMG, 72: 230-31). First, Gandhi recognized the nonviolent nature of reality, which he articulated by pointing out that the violence of history is not an invariant attribute of reality for the simple reason that history is but a record of changes and not that of invariance: "History,

as we know it, is a record of the wars of the world. History, then, is a record of an interruption of the course of nature" (Gandhi, 1910: 75). Changes can be readily seen, but perceiving invariance calls for added reflection. If violence were the law of nature, Gandhi argued, we would not be:

Why can we not see that if the sum-total of the world's activities was destructive, it would have come to an end long ago? . . . *ahimsa*, sustains this planet of ours. — CWMG, 90: 195

Having thus appreciated the nonviolence of reality, Gandhi realized that the way to reality is through nonviolence.

How does one go from recognizing an attribute (nonviolence) of an object (reality) to realizing that that attribute (nonviolence) can be used to find the object (reality)? Using an attribute of an object to locate the object (be it in material or mental realms) is a working method of knowing. We use, for example, the colour of a car to find the car in a parking lot. From this perspective, it seems plausible to go from recognizing nonviolence as an attribute of reality to realizing that nonviolence can be used to know reality, as Gandhi did. Looking beyond plausibility, what exactly is the cognitive trajectory from "reality is nonviolent" to "nonviolence is how we know"? Let us look at few more readily relatable situations that can inform our question. Police, for example, question an English criminal in English and a Telugu criminal in Telugu. We use eyes with photoreceptors to see, while we use nose with chemical receptors to smell. Stones with weight are used to measure weights, while sticks with length are used to measure lengths. Dots of a graph are listed using maps from a dot, while arrows are listed using maps from an arrow. This matching of how [we know] to what [we are trying to know] is suggestive of the sensibility of approaching nonviolent reality nonviolently. That there is more to knowing than mere matching of means to ends can also be seen in the above examples. Both the photoreceptors that are used to see and the surfaces that are seen "trade" in light, but one detects while the other reflects. In a similar vein, in an interrogation both police and criminal may speak in English, but there is a difference: the English of the police is that of questions, while the English of the criminal is that of answers. Drawing parallels, we ask: granted nonviolence is the "language" of both reality and knowing, how is the nonviolence of knowing "tuned" to the nonviolence of reality? In searching for an answer, to our pleasant surprise, we noticed the likeness between Gandhi's spiritual yearning for truth and the scientific struggle to make sense.

The main thesis of the present paper is: Gandhi's nonviolence of knowing, notwithstanding its spiritual genesis, is an abstraction of both individual knowing (looking, reasoning) and the collective knowing of science (measurements, calculations). Gandhi's truth through nonviolence — a derivation of the "how" of knowing from the "what" of reality — gives us one more reason, a reason for scientists, to acknowledge his genius. In the following we provide an overview of reality and knowing so as to facilitate a clear understanding of how Gandhi, starting at the *AHIMSA* of ancient Indian thought and via "falsehood is violence" (Rao, 2012), arrived at his original NONVIOLENCE of truth-through-nonviolence.

### **Nonviolent Reality**

Reality can be approached by contrasting it with fiction. Anything and everything can happen in fiction, which makes it inconsistent. Reality is not fiction, i.e., not-inconsistent. It is not a place where anything happens; reality is a *space of consistent-happenings*: solids stay put, while liquids flow down, and gases, unlike both solids and liquids, diffuse out. Violence, naïvely speaking, is where anything can happen (which is why violence is not the default setting for solving problems). From this viewpoint, violence, not unlike fiction, is inconsistent. The inconsistency of violence, which is "anything can happen in violent situations", can sustain nothing. Negating violence gives nonviolence: nonviolence understood as consistent-becoming or becoming consistent with being. Nonviolence understood as consistent-becoming is thus the defining attribute of reality, or as Gandhi understood: "*Ahimsa* is the supreme law or *dharma*" (Gandhi, 1948: 301).

Turning our attention to biology, we do find violence — violence implicit in *survival of the fittest* — treated as a trait of nature. But if one were to focus away from the change of speciation and focus on the invariance of reproduction within a species, then one finds biological processes such as translation and transcription, which embody nonviolence in their commitment to "do not mutate". Summing up, physics (with its lawful motions and transformations of bodies) and biology (in preserving the meaning of genetic code during reproduction) constitute an unequivocal proclamation of the nonviolent character of nature.

### **Nonviolence of Knowing**

The nonviolence of reality is nonviolence defined as not-inconsistent. What about the nonviolence of knowing? The nonviolence of knowing is a positive reading of nonviolence: nonviolence defined as respecting or preserving.

There are few books, some papers, and some more notebooks on my desk. How did I know? I looked and the act of looking brought about the knowledge of things that are on the desk. My looks, when I look to see what is out-there, do not change the way things are. So is the case with reasoning, which is another means of knowing at the level of individual. In drawing conclusions, the acts of reason do not change the given premises. In addition to looking and reasoning that we, the individuals, routinely deploy to know, there is the collective knowing of science. At the level of science, measurements, and calculations constitute the acts of knowing. The disciplined nature of knowing, i.e., the "do not change" of looking and reasoning that is obvious at the level of individual knowing is taken as the defining condition on knowing. So we try to make sure that the act of measurement does not change that which is measured.

Knowing can be thought of as making explicit something that is implicit in a given situation without disturbing. The defining condition on knowing, then, is *being respectful of the given* as we bring into focus that which we are trying to see. In practice, however, measurements are not completely non-invasive (e.g. inserting micro-electrodes into brains to measure neural activity). Hence, the "do not disturb" is an ideal to which physical measurements aspire to. The ideal "do not disturb" of physical knowing becomes, in the following, the actual "do not tear" of mathematical knowing.

Mathematical knowing involves calculations such as establishing isomorphisms (as a way of knowing unknown objects in terms of known objects), determination of functional relationships (such as that between radius and area), evaluating functions (to find, for example, the area of a circle, given its radius), solving equations (for, say, the point of intersection between two lines), assigning truth values to statements and characterizing truth value objects of various domains of discourse, abstracting concepts (e.g. GROUP), and interpreting theories (e.g. group theory). Beneath this bewildering diversity of mathematical calculations — making unknown known — is a simple method of respecting-meaning or preserving-structure. More explicitly, mathematical objects (such as groups or graphs) are thought of as structures and the way we get to know about mathematical objects is by way of probing with morphisms, which, in geometric terminology, "do not tear" apart the structure of objects (Lawvere and Schanuel, 2009: 133-37, 149-51 and 210). Structure-preserving morphisms can be thought of as transformations preserving positive properties (e.g. cats have tails, in contrast to negative properties such as "do not have horns"). This instrument of preserving-meaning,

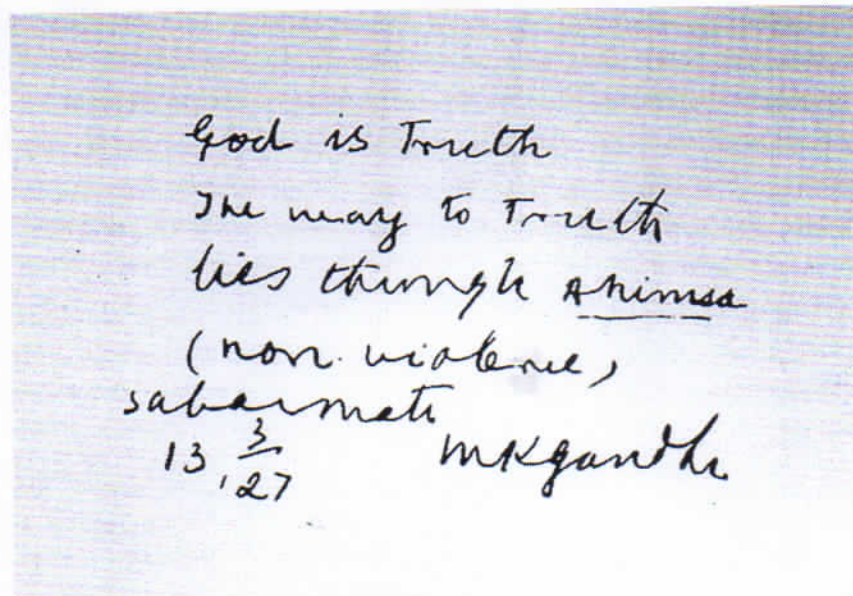
with violence as “distortion of meaning” (Rao, 2012), exemplifies Gandhi’s assertion that nonviolence is the only means of knowing. The extensive mathematical reach of the nonviolence of knowing springs from an elemental equation: “falsehood is violence” that Gandhi insisted on (Rao, 2012). We can measure, to give a familiar illustration, the unknown size of a room using sticks of known lengths. Being truthful about the lengths of measuring sticks is a necessary condition for knowing the true size of the room. Putting it all together, we find the Mahatma’s truth-through-nonviolence validated in cognition, in physics, and in mathematics — in their respective struggles to know.

### Concluding Remarks

We showed how the time-tested concept of *AHIMSA* — deeply rooted in ancient Indian spirituality of Jainism, Buddhism, and Patañjali’s *Yoga-Sutras* — speaks to the core concerns of science in general and science of knowing in particular. Our work began as a simple-minded study to understand Gandhi’s experimental finding: “the only means for the realization of Truth is *ahimsa*” (Gandhi, 1940: 615). Upon grasping its import, we examined scientific practices across a range of disciplines — physics, mathematics, and cognition — to see how we acquire knowledge. We find that Gandhi’s insight into knowing is a sublime abstraction — in true scientific spirit — of the scientific methods of knowing (measurements, calculations, and reasoning).

In closing, we address various criticisms of truth-through-nonviolence. One criticism is that it is a category mistake to characterize reality as nonviolent or to read nonviolence into knowing. In response, it might seem like a category mistake to say that reality is nonviolent or to say that nonviolence is an ideal means of knowing, especially, when one’s thinking is wedded to a conceptualization of violence engendered by, say, watching news, by the violence of wars and terrorism. Our thesis on nonviolence is rather removed from the imagery of bombs and bloodshed, though not unrelated; the relevant contrast here is with *violation* as in “falsehood is violence”, “violence is denial of *dharma*”, and “distortion of meaning” (Rao, 2012). In this sense, the nonviolence we are explicating is reminiscent of obeying laws and of being respectful. In a sense, all that we are reading into Gandhi’s nonviolence is a rational interpretation — in the terminology of cognition, physics, and mathematics — of Gandhi’s conviction that (1) there is a method within the madness all around, (2) nonviolence is its name, and (3) it could be harnessed to make the chaos we are suspended in little more manageable: “Non-violence is the supreme law. . . . I have not yet come across a situation . . .

that I had no remedy in terms of non-violence" (CWMG, 68: 202). There is also the criticism that "nonviolence is a natural means of knowing" is at best a tautology since the truth that one finds in it is none other than the fact that we have no choice but to be truthful in finding truth. Without disagreeing, we add that the specific incarnations of truth-through-nonviolence in different ways of knowing — cognition, physical measurements, and mathematical calculations — are not obvious until explicitly stated and hence worth documenting. Another criticism is that the application of nonviolence — as a means of knowing — is limited to frameworks with definite subject-object divide. Yes, truth-through-nonviolence is classical. It is not clear how nonviolence informs the study of consciousness, specifically where there is no clear separation between observation and [observed] experience (Rao, 2005); so is the case with quantum mechanics in view of its observation problem (Gomatam, 1999). Nevertheless, there is hope (outstanding-work): "If there is a fundamental distinction between man and beast, it is the former's progressive recognition of the law and its application" (CWMG, 63: 321) and "I see new implications about them. I see them in a newer light every day and read in them a newer meaning" (Gandhi, 1955: 6). This is not surprising since Gandhi's truth-through-nonviolence is a concise statement of the determination of the "how" of epistemology by the "what" of ontology.



Gandhi's nonviolence: The way to Truth lies through *Ahimsa*.  
 (Source: gandhiserve.org)



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