

The Incommensurability of Scientific and Poetic Knowledge

Abstract: The paper proposes a way of distinguishing rational, scientific language from the discourse of poets, mystics, and metaphysicians, based on the description of two kinds of metaphor suggested by Vico. It concludes with the suggestion that scientific fundamentalism is as misguided as the religious versions and that a proper balance of the scientific and the mystical is crucial for the future of our world.

Key Words: Scientific knowledge, poetic wisdom, metaphoric language.

Eighty years ago, in his book "Mysticism and Logic" Bertrand Russell explained the basis from which he was developing his discussion of the problems inherent in this juxtaposition. Although the areas are not quite the same, the problems raised by the juxtaposition of scientific and poetic knowledge are very similar and can, I believe, be approached from the same starting point. Indeed, Russell made clear that the attempts to deal logically with elements of mysticism have always taken place in the domain of metaphysics and that the term "metaphysics" comprises not only the mystical heritage of religions but also everything that is mysterious in the sphere of art.

I have found Russell's definitions useful because it enabled me to formulate precisely the point on which I disagree with most philosophers. I therefore want to begin by quoting a relevant passage from Russell's text:

Metaphysics, or the attempt to conceive the world as a whole by means of thought, has been developed, from the first, by the union and conflict of two very different human impulses, the one urging men towards mysticism, the other urging them towards science. Some men have achieved greatness through one of these impulses alone, others through the other alone: in Hume, for example, the scientific impulse reigns quite unchecked, while in Blake a strong hostility to science coexists with profound mystic insight. But the greatest men who have been philosophers have felt the need both of science and of mysticism: the attempt to harmonise the two was what made their life, and what always must, for all its arduous uncertainty, make philosophy, to some minds, a greater thing than either science or religion. (Russell, 1917/1986; p.20)

My disagreement springs from the last sentence. I agree with the observation that the great philosophers have tried to find a way to integrate the mystical and the scientific. But from my point of view it was precisely the preoccupation with mysticism that blocked their progress in epistemology. The attempt to analyze the mystic's wisdom with the tools of reason invariably leads to a twofold failure: on the one hand it destroys the mystic's vision of unity because it segments experience into separate, specifiable parts; on the other, it compromises the rules of rational thought because it admits terms whose definition remains questionable because it is based on private experience.

Wittgenstein has expressed this impasse in his famous maxim:

Whereof one cannot speak, thereof one must be silent.

(Wittgenstein, 1933; p.189.)

Put that way, it may give the impression that it is easy to distinguish the things of which one can speak from those of which one cannot. But this distinction is not at all obvious. It dawns on one whenever one finds oneself in a situation where nothing one could say expresses what one would like to say.

This dilemma probably crops up most often when we would like to explain to someone precisely what it is that moves us in a painting, a poem, or a piece of music. We try to speak of the colors, the merit of the composition, the articulation, the associations, the power of the symbolism, and all the things we have picked up from erudite historians and critics—but we realize that we are not even coming close to the actual cause of our emotion and attachment to the work of art. In the end we can only say: I cannot explain it, but it's out of this world."

Fifty years ago, we might have used the expression "It's sublime" and it would have meant the same, even if we were not aware of the Latin root of that word, which is *sub limitem* and means "beyond the limit." The limit, in this case, is of course the limit of what is specifiable in literal language. In order to convey what we feel, we have to use metaphors.

Though the study of metaphor has become fashionable of late, I have not found anywhere in the contemporary literature a reference to the particular distinction of different types of metaphor that, to me, seems indispensable if we want to examine the relation between science and mysticism.

The Italian philosopher Giambattista Vico was the first to propose a criterion that allows us to separate the rational scientific use of language from the poetic discourse of mystics and metaphysicians (cf. Vico, 1744). To recognize the value I attribute to this criterion, you need a brief, general explanation of what I believe to be the pattern of metaphor.

One constructs a metaphor by referring to one concept in order to describe another. Such a substitution requires some similarity or analogy between the two. This is to say, a metaphor works to the degree that one is able to transfer one or several customary characteristics of the first thing to the second, to which it is not habitually attributed. The fact that there are always two items involved, is the basis of Vico's distinction.*

* A more extensive discussion of Vico's theory of metaphor can be found in my *Radical constructivism: A way of knowing and learning*, Falmer Press, London, 1995.

On the one hand, he says, there are linguistic expressions that use words associated with some common experience in order to evoke another experience that would also be accessible to whoever hears or reads the metaphor. We all know this type of metaphor quite well because it is frequently used in everyday language. To clarify its difference from the second type, I shall give an example. If I tell you that the other day I met my friend Robert, and it was with him in his Ferrari that I flew to Boston, you understand my metaphoric use of "flew" because both flying and traveling by car are within the range of your actual (or at least potential) experience and you have no difficulty in gathering that speed is the characteristic to be transferred.

For the second type, I shall turn to a poet, for instance the author of a psalm, who wrote: "If I take the wings of the morning and dwell in the uttermost parts of the sea..." You have no possibility of interpreting these words as a description of experiences you have had. Between the wings you have known and your concept of morning there is a mysterious gap; and the uttermost parts of the sea are altogether outside your experiential range. This hiatus is characteristic of Vico's second type of metaphor. It projects something known into a domain beyond experience or, vice versa, it attributes a mysterious property to something familiar.

Poets, of course, use both types, and Blake, for example, was a master at linking them.

Smile on our loves, and, while thou drawest the
Blue curtains of sky, scatter thy silver dew
On every flower that shuts its sweet eyes,
In timely sleep...

Blue curtains, sky, and silver dew, flowers and eyes are familiar things in our experience and we have no difficulty in combining them in novel ways. But in Blake's poetic imagination the acts of smiling, drawing, and scattering are attributed to the Evening Star and thus evoke an ineffable mystery.

With the magic metaphor the poet alludes to what is not communicable in literal language because it is not part of the speakers' common experiential world. He wants to share one of those phenomena that William James has called *private* and *personal* (James, 1901–1902).

The difference that distinguishes the poetic metaphors from those that one might call prosaic, gains considerable importance if we want to recognize different kinds of knowledge. If we define the scientific kind as abstractions drawn from experiences or experiments that are repeatable and accessible to other scientists, two things become clear. Poetic metaphors are not compatible with scientific discourse, and, second, the discourse of poets and mystics cannot be translated into the language of the sciences.

In any case, poets and mystics have an aim that is altogether different from that of scientists. They use their poetic metaphors to evoke images which, as Bertrand Russell would say, should make manifest the unity of an absolute world.

This is, as Valéry said:

...a matter whose diversity and complexity confront the intellect and its will to represent and to dominate by means of symbols the insuperable obstacle of the real: the indivisible and the indefinable. (*Oeuvres*, p.822).

The concept of a unity that comprises everything is not feasible according to the rules of rational thought. Reason can cut a piece out of the flow of experience. If then it reflects upon just this—a “something” made discrete by cuts—it creates the concept of unit. As Husserl (1887) noted, this is also the first step in the generation of “things,” if it is followed by reflections on what lies *between* the cuts. The point that is relevant here, is that the concept of unit is dependent on the endless flow of experience. (Our experience is without ends, because as rational observers we awoke only long after it began, and we shall no longer be there when it ceases.

This requirement of a background against which a discrete entity can be posited, is the source of a problem in the Big Bang theory. The theory would like to cover the genesis and the development of the universe. Yet, precisely because it purports to be a history, it leads us at once to ask what was there before the Big Bang. Which turns out to be a metaphysical question. And science does not deal with metaphysical questions. It uses rational thought to construct conceptual models that are to help us organize and systematize the phenomena of our experience.

Vico's distinction of two types of metaphor has provided a way to separate the scientific enterprise from that of poetic wisdom. Much earlier, however, a Byzantine school of theology established the impossibility to capture the mystical in rational concepts. If God is omnipotent, omniscient, and present everywhere, these theologians argued, then God is entirely different from all things we encounter in our experience. And since our concepts are but abstractions from our experience, we cannot hope to form an adequate concept of God.—It is essential to realize that this argument in no way diminished the Byzantines' faith or the value they attributed to revelation. It merely made them aware of the incommensurability of mystical wisdom and rational knowledge.

One of the clearest images of the power of mystical metaphor is formulated in a scene of cross examination in Bernard Shaw's *St. Joan* where Robert Beaudricourt, the inquisitor, urges her to reveal the instructions she claims to have received:

Joan: ...you must not talk to me about my voices.

Robert: How do you mean? Voices?

Joan: I hear voices telling me what to do. They come from God.

Robert: They come from your imagination.

Joan: Of course. That is how the messages of God come to us.

(Shaw, *St. Joan* 1923, scene 1)

There can be no doubt that, in their initial conception of rational models, scientists, too, draw on poetic imagination. It falls under what Peirce called “abduction” and is essential in the way they configure and then relate experiences. Their hypotheses are generated in the form of “as if” conjectures, and in order to become viable theories, they must be capable to serve others as a useful interpretation of observations. Hypotheses and theories, therefore, must be couched in terms that refer to “data” that are public in the sense that they can be deliberately brought about, recognized, and communicated. No matter how well this succeeds, however, the scientific theories and models concern the rationally segmented world of human observations and experience, not the unitary world of the mystic's revelation.

Nearly all active physicists and a good many philosophers have come to see that there is a mysterious side to the world which, of its nature, must forever remain out of

the reach of science. But there is still the trend of the last century to replace religion with science. In the press and in beautifully produced programs on television, in classrooms and lecture theaters, science is celebrated as the golden path to *truth*. This generates a fundamentalism that is no less pernicious than the religious kind. If humanity is to find a viable equilibrium for survival on this planet, both scientists and mystics will have to acknowledge that although the rational coordination of actual experience and the wisdom gleaned from poetic metaphors are incommensurate, they need not be incompatible. The most urgent task seems to be to develop a way of thinking and living that gives proper due to both.

References

- Blake, W. (ca 1770) *The Evening Star*.
- Husserl, E. (1887) *Philosophie der Arithmetik*. The Hague: Martinus Nijhoff, 1970.
- James, W. (1901–1902) *Varieties of religious experience*. Clifford Lectures. London: Longmans, Green & Co.
- Russell, B. (1917) *Mysticism and logic*. London: Unwin Paperbacks, 1989.
- Shaw, G.B. (1923) *St. Joan*.
- Valéry, P. (1936) *Une vue de Descartes (Variété IV)*, in *Oeuvres*, Paris: Bibliothèque de la Pléiade, 1957.
- Vico, G-B. (1744) *Principi di scienza nuova*. English translation by T. G. Bergin & M. H. Fisch, New York: Doubleday, 1961.
- Wittgenstein, L. (1933) *Tractatus logico-philosophicus*. London: Kegan Paul, Trench, Trubner & Co., (2nd revised printing).

This paper was downloaded from the Ernst von Glasersfeld Homepage, maintained by Alexander Riegler.



It is licensed under the Creative Commons Attribution-NonCommercial-NoDerivs License. To view a copy of this license, visit <http://creativecommons.org/licenses/by-nc-nd/2.0/> or send a letter to Creative Commons, 559 Nathan Abbott Way, Stanford, CA 94305, USA.

Preprint version of 13 Feb 2006