

BERNARD LONERGAN ON PRIMARY VS. SECONDARY QUALITIES

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It is noteworthy that as far back as Democritus in the fourth century B.C. philosophers have found it convenient to differentiate our sensations of things from any direct identification of those sensory data in the things themselves. Democritus asserted that tastes, temperatures, colors and the like exist only by custom, whereas atoms and the void truly exist.¹ With the revival of Democritus' theory of atoms in the Late Renaissance, Galileo (1564–1641) also revived the distinction between sensory data as subjective, whereas objectively those data exist as the motion of atoms. Galileo's position was adopted by his contemporaries, Thomas Hobbes (1588–1679) and Johann Kepler (1571–1630), and by his successor, Isaac Newton (1642–1727). On the other hand, their other contemporary, Rene Descartes (1596–1650) rejected the theory of atoms as indivisible, but upheld a theory of minute particles which are divisible and in motion. Nevertheless, he retained the distinction between subjective sensory data and the objective material substance of bodies.

Then, as is well known, Robert Boyle (1627–1691) named this distinction as "secondary qualities" versus "primary qualities" (*The Experimental History of Colors*, 1663). The adoption and popularizing of the distinction was brought about by John Locke (1632–1704) in his *Essay Concerning Human Understanding* (1st ed. 1690). It has been a source for criticism, as by George Berkeley (1685–1753), Locke's contemporary, and by many others right up to the present.² It is especially criticized in post-modern philosophy by those in the hermeneutic movement. The latter resemble those ancient and medieval philosophers who maintained the distinction between sensations and concepts, but considered both as two kinds of valid and true knowledge.

Thus, the prime consequence following from the distinction of primary and secondary qualities was the proposal that secondary qualities, because they are subjective, do not give us knowledge of the things which, supposedly, cause us to have these sensations. Further, only

primary qualities, because they are co-present in every material object, give us true knowledge of those material objects. Yet let us note in passing, those seventeenth- and eighteenth-century thinkers were not agreed on the number and kind of primary qualities. Galileo listed them as shape, motion, location in time and place, number, and contact. Descartes listed only extension, position, and motion, but not solidity nor weight. Locke listed them as extension, figure, solidity, mobility, and number in paragraph 9 of his *Essay*, and then listed them as bulk, figure, texture, and motion in the next paragraph of the same *Essay*.³

However, this paper is not an investigation into the similarities or differences among these theorists. Instead, this paper is a critique of the very notion of primary versus secondary qualities as having differential truth-values. Moreover, this critique takes its inspiration from the work of a twentieth-century Canadian Jesuit philosopher, Bernard Lonergan (1904–1985). A re-reading of his 1957 book, *Insight*, was prompted by the recent appearance of several books and articles about him.⁴ These analyze, develop, and apply his thought to topics in philosophy and theology. In 1990 alone, besides the fifth volume of his collected works, there appeared at least two major works on Lonergan and an article.⁵ Yet, it was my re-reading of his *Insight* which provided the definitive basis for rejecting the distinction of primary versus secondary qualities as made by its early modern proponents.

Lonergan first mentions primary and secondary qualities when he contrasts his own explication of human knowing to that of Galileo. The latter claimed that increase in scientific knowledge would result from side-stepping secondary qualities while at the same time mathematically assessing the primary qualities of bodies and their motion. Lonergan, however, places scientific progress in moving from experiential propositions, which he calls "experiential conjugates," to scientific ones, which he calls "pure conjugates" (84).⁶ Both are genuine formulations, and *both are verifiable* (85). There are two reasons for this.

First, there is no meaningful experience of a bare sensation by itself. Our acts of hearing, touching, testing, smelling, and seeing do not occur in a cognitional vacuum, but

in a context determined by interests, preoccupations, and previous learning (73, 190–91). For example, there is no experiencing of "sweet" on the tongue as "knowing it to be sweet" without "understanding what sweet is." Much less could one give a name to that sense datum, "sweet," without cognitional recognition. This is also good, reputable, contemporary psychology of perception.⁷ It is why Lonergan calls them experiential *conjugates* (79).

But, secondly, the same is true of the so-called primary qualities like shape, texture, size, motion, and so on. They, also, are the content of sensations which must be accompanied by cognitional understanding, that is, by insight, in order to be meaningful.⁸ Moreover, in the case of "pure conjugates," that is, scientific propositions, they are, and must be, defined implicitly by empirically established correlations, functions, laws, and so on, which have their verification in *combinations* of experiential conjugates (80). No scientist, for example, can measure velocity without seeing the event of acceleration and deceleration and without looking at his measuring device. And this is also how he verifies his findings—by looking at repeated events and by looking at his repeated measurements. In other words, any scientific experiment is carried out in the world of ordinary experience and the final verification of it rests with its validation in the field of ordinary sense perception.⁹

In fact, Lonergan faults Galileo for not only neglecting secondary qualities, but also for neglecting to verify the primary ones.

Inversely, Galileo did not base his affirmation of the reality and objectivity of primary qualities upon a claim that these qualities, as he conceived them, were verifiable or verified. Accordingly, his affirmation was extra-scientific. (86)

Further, because Galileo's distinction is penetrated with philosophical assumptions about reality and objectivity, their ambiguity shows up in Descartes, Hobbes, Locke, Berkeley, Hume, and finally in Kant, where the objective primary qualities turn into mere phenomena (130), according to Lonergan.

The question arises, therefore, as to the cognitional truth-value of all of our perceptions, that is, our "experiential conjugates," as Lonergan calls them, given that they differ from "pure conjugates." It is a question of the status of common sense explanations as distinct from scientific ones. For, these are two types of valid knowing, for which the problem is not one of elimination but of critical distinction.

Unless they are distinguished sharply by a critical theory of knowledge, they become confused to generate aberrations that afflict not only scientific thought but far more conspicuously the thought of philosophers. (253)

When the distinction is made, however, we reach separate but complementary domains (294). The reason is the affirmations of empirical science contain the qualifying reservation 'from the viewpoint of *explanation*,' while the affirmations of common sense contain the qualifying reservation 'from the viewpoint of *ordinary description*' (295). These are two different, but valid and verifiable, kinds of knowledge.

At this point, what is remarkable is not so much the dismissal of the distinction between primary and secondary qualities, for others have rejected it for diverse reasons, beginning at least with George Berkeley. What is remarkable is that Lonergan demonstrated that the realm of ordinary experience, that is, the world of both primary *and* secondary qualities, when expressed in meaningful statements, is as valid a type of knowledge in its own way as is science in its own way (294-97)—and he did this in 1957. That was thirty years before Richard Bernstein and Hilary Putnam offered a similar demonstration just a couple of years ago.¹⁰ That is, what all three of these philosophers are saying is that primary qualities are as much a matter of sense perception as are secondary ones, but that *both* possess truth value in the realm of the experiential when *verified* in cognitional *propositions*. What Lonergan did was to approach this solution from the analysis of human knowing, before the other two approached it from the actual procedures of scientific investigators. Additionally, Putnam and Bernstein profited from the rise of the contemporary hermeneutic movement in philosophy which

provided the basis for distinguishing multiple *types* of knowing as valid *interpretations*. This, of course, was most notably done by Hans-Georg Gadamer.

In fact, it must be pointed out that Lonergan also anticipated, by three years, the theories of Gadamer concerning our inescapable "prejudices" (pre-judgments), our "horizons," our "biases," our "cultural viewpoints," when we do form our perceptions and our conceptions, on both the levels of common sense and of science. Just as all of our perceptual judgments occur only in a context, as we saw above, Lonergan notes that scientific observations also occur only under the dominance of a guiding orientation (74). Yet, Gadamer's epoch-making book, *Truth and Method*, which is generally considered the start of the contemporary hermeneutic philosophy, was first published in 1960 in German.¹¹

Indeed, it is interesting to note, parenthetically, that Lonergan used 'viewpoint' many times in *Insight*, but by 1972, in his *Method in Theology*, he substituted 'horizon' consistently for 'viewpoint,' thus placing himself in the hermeneutic movement, or, at least, its vocabulary, after he had already outlined its features, as it were.¹² Moreover, where Gadamer spoke, in 1960,¹³ of a "fusion of horizons," Lonergan had delineated, in 1957, lower, higher, highest, and universal viewpoints. It is to this topic I now turn as it is related to primary versus secondary qualities.

Whereas the pseudo-distinction between these qualities, made by the seventeenth and eighteenth century philosophers, did not lead to a valid demonstration of their truth value, it did lead to a questioning of the relative truth of experiential propositions as contrasted to scientific ones, and both of these as contrasted to those of all other disciplines. This question is the matter of "viewpoints" and interpretation. For, even on the level of description (experiential conjugates) and on the level of explanation (pure conjugates), there are differing viewpoints, which are different heuristic devices (103-7). Biology, for example, differs from botany and physical anthropology, although all three treat of living things.

However, Lonergan notes that there arise "higher" viewpoints when single viewpoints combine into a new one arising from further insights, as in the rise of new sciences, new forms of mathematics, and new systems of philosophy

(233–34). Recall the Cartesian invention of analytic geometry and the subsequent invention of calculus. Further, the "highest" viewpoint, notes Lonergan, is metaphysics (390–94). The reason is, of course, because it is based on the insight which is all-inclusive, namely, *being* (350). It is so all-inclusive that he calls it the "protean notion of being" (484). Yet, his thorough exposition of metaphysics is not what is of most interest at this point even though he devotes four chapters to it (XIV through XVII). Rather, his distinction of the "spontaneous" notion of being from the "theoretical" notion of being is relevant to the so-called primary and secondary qualities.

Lonergan points out that "The spontaneously operative notion [of being] is invariant; it is common to all men; it functions in the same manner no matter what theoretical account of it a man may come to accept" (352–53). In addition, this natural, spontaneous notion of being is prior to any subsequent knowledge. It is prior to each instance of knowing it at any level, and it is prior even to any sort of judgment (353). Consequently, this natural notion of being also precedes any distinct perceptions and conceptions, even the so-called primary and secondary qualities, which Kant reduced to phenomena (339). Thus, knowledge of any perceptual or conceptual or propositional kind is always *preceded* by the natural knowledge of being. It is all-pervasive (356).¹⁴ This realization of the spontaneous notion of being which *precedes* all other levels of knowledge is what was lacking in the adherents of the pseudo-distinction of primary and secondary qualities (413–14).

As for the "theoretical" notion of being, it is, obviously, not natural, nor all-pervasive; it issues into diverse types of metaphysical systems. It consists of the varying conclusions of heuristic structures and of diverse viewpoints. But, is this the end of the matter? Are there only irreducibly pluralistic systems of metaphysics? Lonergan thinks not. For, just as Hans-Georg Gadamer was later to propose the "fusion of horizons," as noted above, Lonergan proposed a "universal viewpoint."

Briefly, for it is only marginal to the thrust of this paper, a universal viewpoint is "a potential totality of genetically and dialectically ordered viewpoints" (564). It arises from the range of possible alternatives of interpretations; it relies on the

interpreter's capacity to grasp meanings; and it is an ordering of viewpoints from generic to specific (565–66). In this universal viewpoint, the attempts of those who proposed a distinction of primary from secondary qualities have been found to confuse the level of description by perceptions with the level of explanation by concepts and theories. Above all, they neglected the primordial knowledge which precedes any kind of perceptions, namely, the knowing of *being*. Thus, the so-called primary and secondary qualities are only the culturally induced—as Democritus might say—and the culturally internalized modes of perceptually identifying *beings*, which are naturally known as beings, before cognitively perceiving them. The same also holds true, of course, for concepts and theories of all sorts.

To summarize and highlight Bernard Lonergan's treatment of the pseudo-distinction of primary from secondary qualities, I offer the following precis:

1. The so-called secondary qualities are sensory data plus intellectual interpretations.
2. The so-called primary qualities are the same, that is, they are merely sensory data plus intellectual interpretations.
3. Consequently, both secondary and primary qualities have the same truth value status; they differ neither as to their psychological status nor as to their intelligibility.
4. However, as perceptions, they can both be verified and are valid on the level of *description* of the objectively experienced world; they are "experiential conjugates."
5. Beyond this level of perceptions is the higher level of the indirectly perceptible one of concepts and theories, which is the level of *explanation*; these are "pure conjugates."
6. On both the descriptive and the explanatory levels, there are multiple "viewpoints" (horizons), heuristic devices based on insights, which are understandings.
7. A "higher" viewpoint is the combining or coalescing