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***“Theory-ladenness”
in Thomas F. Torrance’s Epistemological Realism***

Realism can be understood both as an ontological and epistemological standpoint. In the former sense, it implies claims on the existence of reality *extra mentem*, that is, independently of us and our act of cognition.* In the latter, it asserts the possibility of cognition of the independently self-existing reality *per se*. Thomas F. Torrance is, for various reasons, considered as a typical representative of realism in theology – both ontological and epistemological. The paper is concerned with his epistemological realism. The tenets of realism-related standpoint presented in the paper Torrance holds to be pertinent both for science and theology.

The idea of scientific observations being always ‘theory-laden’ is not commonly related to realistic position – on the contrary. Without going into any further analysis, the paper is concerned with the idea in its most basic meaning: in terms of the claim that an observation deprived of theory does not exist *per se*.¹ This claim has been widely recognized in various disciplines dealing with the issue of human knowledge (philosophy of science, cognitive sciences, sociology, etc.) and it has been most commonly related to a form of antirealism: constructivism, instrumentalism or phenomenism. This gives rise to the following question: Is it possible to adopt the concept of ‘theory-laden’ observations while advocating realism? Notwithstanding his advocacy of realism Torrance proves to appreciate and, in some form, adopt the concept.² The aim of the paper is to analyze the way the concept of ‘theory-laden’ observations has been incorporated in the framework of Torrance’s epistemological realism, as well as to present the basic structure of his epistemology through the analysis.

1.

Torrance tends to postulate his own realistic position as the one that transcends the traditional opposition between idealism and realism. He views realism as the standpoint not opposite to idealism, but to the standpoint that lies in the roots of the opposition between

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¹ This concept was originally promoted by Norwood Hanson (in his *Patterns of Discovery*, Cambridge: Cambridge University Press, 1958). Afterwards, it became well-known thanks to the work of Thomas Kuhn (Cf. his *The Structure of Scientific Revolutions*, Chicago: University of Chicago Press, 1962) and developed in a radical way by Paul Feyerabend (Cf. his *Realism, Rationalism, and Scientific Method*, Cambridge: Cambridge University Press, 1985).

² Although some postliberals would argue that realists have failed to do so. Cf. Sue Patterson, *Realist Christian Theology in a Postmodern Age*, Cambridge: Cambridge University Press, 2002, 4.

realism and idealism – which is *dualism*. Torrance understands dualism as a danger manifested in cosmology, anthropology and epistemology.³ As our concern is primarily with his epistemological dualism, we shall focus on it below. Therefore, let us begin with the passage which demonstrates Torrance's view that dualism, and not idealism, is the problem the solution for which is offered by realism:

"... we shall use the term [realism], not in an attenuated dialectical sense merely in contrast to idealism, nominalism, or conventionalism, but to describe the orientation in thought that obtains in semantics, science, or theology on the basis of a nondualist or unitary relation between the empirical and theoretical ingredients in the structure of the real world and in our knowledge of it."⁴

Realism, understood in 'attenuated dialectical sense', according to him, is the standpoint converging to one side of the dichotomy which should have never been considered at all. Within such a dichotomy, in which the proper relation between the sign and the reality which it signifies is broken, extreme positions alternate and merge. Ontological primacy is alternately attributed to either empirical experience (reality) or its theoretical description (idea).⁵

Proper understanding of Torrance's view of realism in epistemology implies the standpoint which rejects the dualism between empirical and theoretical ingredients in knowledge. His realism claims that subject is not the creator of theory but its recipient, because theory itself is contained in reality. Within any dualistic theory of cognition, be it idealistic or realistic, theory is interpreted either as transcendental reality existing independently of the domain of the sensory experience, or as a product of the subject who uses it in order to categorize and describe its experience. Contrary to this, Torrance argues that theory is inseparable from experience yet not because theory presents an *a priori* assumption through which subject's experience is filtered, but because theory itself is an integral component of reality, as it is stated in the cited passage above. Theory is identified with intelligibility, i.e. *rational order* that is inherent in reality.⁶ This fact makes Torrance imply the impossibility of experiencing reality independently from the experience of order contained in it. No experience of reality could be separated from the experience of its inherent order. It is in this sense that Torrance views the empirical and theoretical to be inseparable. To argue for the concept of 'theory-ladenness' understood in this way is to argue for realistic standpoint. The dualism which separates theory from observation is the very opposition to realism.

In order to explain Torrance's standpoint, which is, at times, blurred by highly complex discourse, I will use an analogy.⁷ Let us imagine a bookcase with books sorted

³ For his broad definition of dualism cf. Thomas F. Torrance, „Notes on Terms and Concepts“, in: Thomas F. Torrance (ed.), *Belief in Science and in Christian Life: The Relevance of Michael Polanyi's Thought for Christian Faith and Life*, Edinburgh: The Handsel Press, 1980, 136.

⁴ Thomas F. Torrance, *Reality and Evangelical Theology*, Philadelphia: The Westminster Press, 1982, 60.

⁵ Ibid. 59.

⁶ Thomas F. Torrance, *God and Rationality*, Oxford: Oxford University Press, 1971, 16; id., *Reality and Scientific Theology*, Eugene: Wipf and Stock Publishers, 2001, 3.

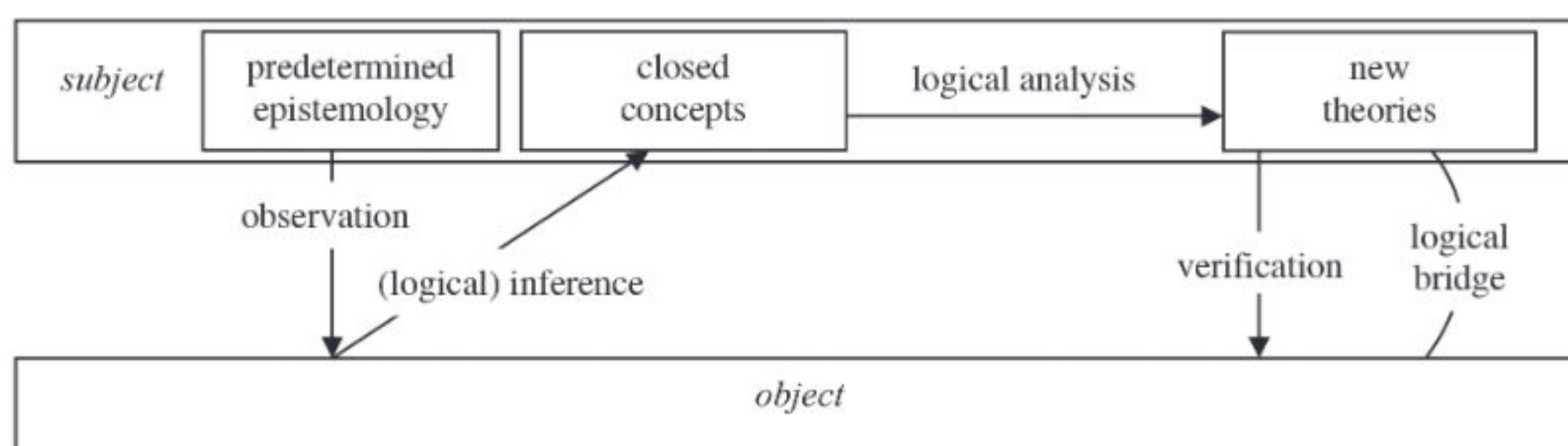
⁷ Torrance developed his discourse against dualist epistemology and the consequent argument for the 'unitary way of thinking' in almost every book he wrote. Besides the above cited, cf. especially his *Theological Science*, Edinburgh: T&T Clark, 1969; *The Ground and Grammar of Theology*, Belfast: Christian Journals Limited, 1980; *Transformation and Convergence in the Frame of Knowledge: Explorations in the Interrelations of Scientific and Theological Enterprise*, Belfast: Christian Journals Limited, 1984.

on the bookshelves *alphabetically*, according to the first letter of the authors' last name. The fundamental feature of dualistic approach is not to perceive theory – in Torrance's sense inherent (*rational*) order – as a component of reality. In our analogy, a researcher looking at the bookcase would ignore the fact that the books have already been sorted according to certain order. So, instead of looking for the inherent order, the researcher would see his task to be sorting the books, in his mind, according to some predetermined order. Having assumed that the order is in his mind, and not in reality itself, he would treat the bookcase as a pile of books which need to be sorted according to some order. He might, for example, start mentally sorting the books according to the *Cyrillic script alphabetical* order, instead of *alphabetically*, thus placing the letter C after the letter H, instead of placing it after the letter B.⁸ Our researcher might get even more tempted to attribute this order to the reality itself, that is, to start thinking that the reality is *necessarily* subjected to the order of the letters in the Cyrillic script alphabet. He might think that the books are necessarily sorted out according to the Cyrillic script alphabet within which the letters themselves are necessarily ordered. In this way the empirical reality is necessarily inferred from the theoretical: the order of the books on the bookshelves is perceived as a necessary manifestation of the (transcendental) Cyrillic script alphabetical order. As a result, according to Torrance, a logical bridge is established between empirical reality and its theoretical conceptualization, which are perceived as two completely distinct realities. Our researcher's would conclude that the *Cyrillic script alphabetical* order presents a necessity to which all books submit including the books in front of him – C *necessarily* comes after H, so it must apply to these books as well.

The research conducted in this way goes as follows. Subject faces reality equipped with predetermined epistemology subjecting it to empirical research in order to, by means of logical induction, infer certain theoretical concepts. The researcher looks at the bookcase, realizes that the surname of each of the authors starts with a letter and sorts the books according to the Cyrillic script alphabet order, which is predetermined. For Torrance, the order, that is, theoretical concepts established this way represent closed structures given their lack of openness to the 'compulsion' of reality which should be revealed through them. They are artificial constructs of the mind which tends to theoretically systematize whatever it has previously cognized through senses. What follows is that further implications are inferred by means of logical analysis of these concepts and thus new scientific theories are produced. The researcher, having concluded that the order of the books necessarily reflects the order of the letters in the Cyrillic script alphabet, in fact infers the order according to which the books should be sorted. This is how a false impression of scientific progress is created. Later on, these theories are tested on the reality they are expected to correspond with whereby a 'logical bridge' is established between the two opposite realities. It turns out, in our analogy, that the M shelf is followed by the N shelf,⁹ which makes our researcher conclude that the books in the bookcase are *necessarily* subjected to the order he attributed to them and that by means of logical analysis of the order he can discover which shelf must follow which one. Torrance's understanding of such epistemological model is presented in Scheme 1.

⁸ In the Cyrillic script alphabet letter C follows after letter H.

⁹ This is the case in Cyrillic script alphabet as well.

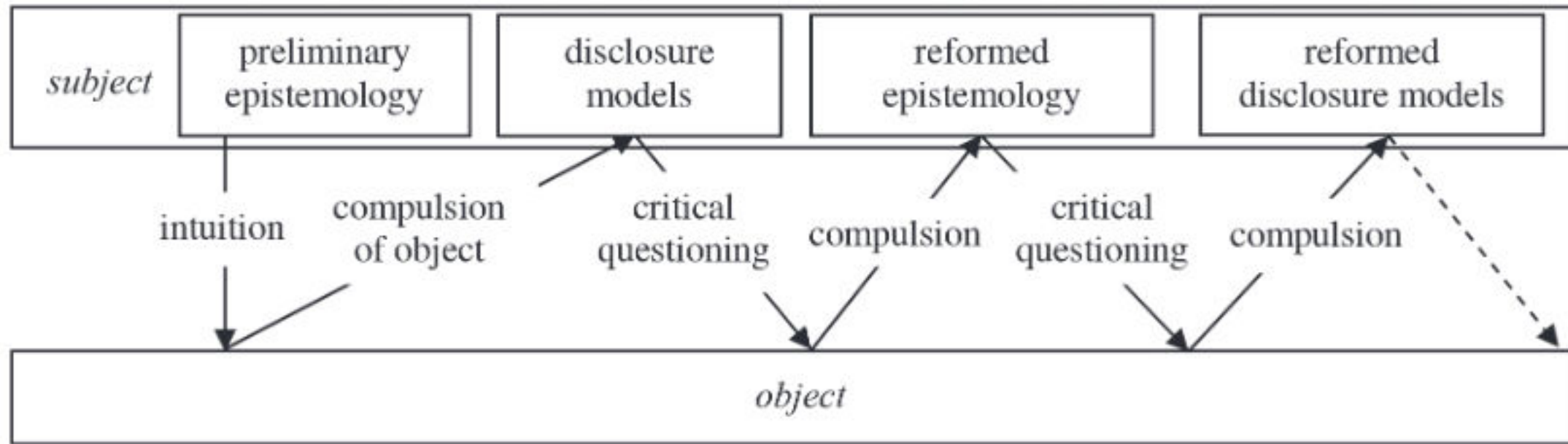


Scheme 1

On the other hand, realism, which is the basis of the *unitary* mode of thinking, draws from the assumption that the order is inherent in reality itself. Thus, the researcher who adheres to such approach treats the world as a bookcase with the books already sorted according to some order. His task is not to construct the order out of the pile of books, but to *discover* the one already present in the bookcase. The order of the letters (as well as the shelves and the books) is not an assumption from which one should start and draw conclusions regarding the order that (necessarily) exist among the books – it is disclosed from the very state of affairs. The order of the letters according to which the books are really sorted is not necessary, but *contingent*. It does not depend on the order of the letters in alphabet or Cyrillic script alphabet, but on the order of the books on the bookshelves. Thus, the researcher would not conclude that the books with authors' last name starting with the letter C be necessarily found after those with the letter H, but would discover that they would follow the B books. Order of the letters in the alphabet discovered this way would not be necessary. It is not constructed by our mind, nor is it transcendental order to which the empirical reality is bound to subject. The ordering of the letters in the alphabet is derived from the ordering of the books, i.e. shelves in the bookcase. Also, no progress in knowledge could be achieved by means of logical analysis of the order comprehended this way. The order of the shelves and their inter-relation must be *discovered* by exploring the very reality and not by assuming that it will necessarily subject itself to the assumed order. Thus, the theoretical (alphabet) and the empirical (perception of the bookcase) do not represent two ontologically distinct realities between which one establishes a necessary relation, in which the latter is necessarily subjected to the former. On the contrary, they represent *unique* reality: the alphabetical order of the letters is inherent in the bookcase. The order of the letters in alphabet is not the matter of the mind's necessity, but of the experiential contingency.

Within such approach, instead of fixed a priori epistemology the subject is using *preliminary* questions in order to examine reality. Within this scenario, the researcher might assume that the books in the bookcase have been sorted according to the Cyrillic script alphabet while allowing the possibility that it could be otherwise. During the investigation, the subject gives space for the reality to act creatively via 'compulsion' which allows for the very structures inherent in reality to be formed in subject's mind. This leads to change of the order of the letters (in his mind) on the grounds of it having been inferred from the order of the books in the bookcase. Knowledge formed in subject's mind under the compulsion of objective reality (the effect of which the subject is amenable to) is *correlated* with the reality. The inferred theoretical knowledge is not the result of posterior action of the mind on the material obtained through sensory percep-

tion; it is an imprint of the intelligible structure of the reality itself. This cognition is formulated within the 'disclosure models' the nature of which implies 'openness' to constant critique and revision. Thus reality is enabled to act compulsively and change both the models and the epistemological frames wherefrom the subject approaches it. Torrance's understanding of this unitary model of thinking is shown in Scheme 2.



Scheme 2

As has already been said, Torrance considers theory to be an ingredient of reality which we allow to be disclosed within our models. Torrance, however, considers that subject; social factors as well as language also have a role in articulating and formulating knowledge.

2.

Torrance recognizes the fact that any knowledge is the knowledge of the subject. Within the process of forming knowledge, subject, by all means, plays an important role. It objectifies the object of his research and shapes the investigation it subjects it to. For this reason, the content of our knowledge always has an *impress* of the subject, i.e. the procedure and the form of research of the object. This mark is impossible to be eliminated from the content of our knowledge:

"... the very nature of our inquiry, by which we create certain conditions within which we force nature to disclose itself to us according to our will, affects the content of our knowledge, and gives it an unavoidable ambiguity. It bears the impress of our questions and analysis."¹⁰

Although subject's impress in the knowledge remains, the awareness of the need for critical revision of the process of acquiring knowledge – the questions we pose to reality and the models we use to describe it – serves the purpose of reducing subject's contribution in cognition to the minimum. Therefore, for Torrance, subject's contribution in cognition is inevitable. Subject should take a realistic approach to reality. It should enable uninterrupted and adequate compulsion of object. It also must constantly critically revise its participation in the process of cognition. For knowledge to be scientific, the conditions of its examination and the questions posed to the object must be determined and constantly questioned by the very object. The mode of examining the object and the questions we ask must conform to the nature of the object. As Torrance puts it:

"It is only through the unremitting questioning of our questions and of ourselves the questioners, that true questions are put into our mouths to be directed to the object for its disclosure to us."¹¹

¹⁰ *Theological Science*, 94.

¹¹ *Ibid.* 120.

Due to the impress of subjectivity that any cognition bears, the scientific statements speak both of the object of knowledge and of its subject. Hence Torrance views scientific laws as “expressions of our modes of cognition as well as of realities in themselves”.¹² Having this in mind, subjectivity of our cognition may (though it should not) be ignored, but it could not be excluded.

This leaves Torrance open to the objection that he also conceives theory as a product of subject and not as an objective structure inherent in reality. However, Torrance resolves this by introducing the principle of *kinship* between the rationality (intelligibility) in creation and the rationality of subject. As is evident in the cited passages, Torrance claims, following Einstein, that as much the world is amazingly open for our cognition so is cognition admirably open for the world. Between mind and universe there is a ‘pre-established harmony’ without which science would be impossible.¹³ Thus, theory (as well as entire knowledge) represents a noetic structure that reflects the ontic one. Theory is a noetic structure wherein the ontic one, akin to it, is reflected.¹⁴ There is no necessary correspondence between them, only *correlation* which is contingent by its nature. This way Torrance avoids the possibility for theory to be ‘ontologized’, to be conceived as existing independent of reality, a transcendental structure to which reality (necessarily) subjects. Theory is a component of reality which can be articulated by subject on the grounds of kinship between the realities of the world and subject.

Furthermore, Torrance asserts that the content of our knowledge is modelled also by inter-subjectivity or, as Torrance calls it, ‘social coefficient of knowledge’.¹⁵ Torrance holds that, apart from subjective consciousness, there is social consciousness as well. The later is generated through participation in joint ‘semantic frame’, ‘the network of meaning’ which is mediated by language. Language itself is not the cause of social consciousness; it is the mechanism of its realization. The cause lies in the fact that any subject exists only as an inter-personal being. Torrance’s concept of ‘social coefficient’ indicates existence of a non-reflected cognitive matrix shared by members of a society or a scientific community within which and thanks to which knowledge is possible to be acquired. The cognitive pattern does not represent positive, propositional knowledge, but, rather, subconscious, non-articulated pre-understanding necessary for acquiring explicit knowledge in every science:

“In itself it is a non-formal apprehension of reality, but it constitutes the necessary ground or condition for all explicit knowledge such as we develop in the various sciences.”¹⁶

Although admitting to the social conditionality of cognition, Torrance does not see it as an impediment in advocating realism. On the contrary, he views the social coefficient of knowledge as the very precondition of realism. How so?

Torrance views the social coefficient as the enabler of openness of the subject for reality since it cherishes a *natural relation* with reality which, briefly put, stands on the position of realism. This entails that scientific research is nothing but rational articulation and rigorous application of this same approach to reality. Having a natural relation with reality, social consciousness, in a way similar to rationally articulated knowledge, reflects the in-

¹² Ibid. 94.

¹³ Einstein borrows this expression from Leibniz (Cf. his *The World as I see It*, London: John Laene, 1935, 125-126).

¹⁴ *Theological Science*, 94-95.

¹⁵ He develops his understanding of this concept thoroughly in *Reality and Scientific Theology*, 98-130.

¹⁶ Ibid. 112.

telligible structure of the universe. Knowledge about the structure of reality is, according to Torrance, in some form already present in the pre-understanding that a scientist shares with others. Eventually, he brings it to rational articulation by deploying rigorous and disciplined research. Likewise, social consciousness is oriented towards reality thus cherishing the approach which places truth within the domain of reality. Our knowledge is not the habitat of truth; it can only be in true or false relation with the truth which is reality itself. It is precisely the social coefficient of knowledge that maintains this focus on reality by indicating that reality itself is the ultimate instance of truth and not the statements about it. Moreover, social consciousness is a guarantee of the objectivity of knowledge because only the knowledge shared and available to others can be considered objective.

The role of social consciousness as the 'cognitive matrix of pre-understanding' is multiple. It (1) names the openness of social consciousness for the reality that transcends it thus maintaining semantic focus on the later; (2) contains inner reflection of the intelligible structure of the universe; (3) guarantees the objectivity of knowledge. Unless it performs all of the listed functions, the 'social coefficient' becomes an impediment for authentic knowledge. While discussing the role of the social coefficient of knowledge, Torrance's emphasis is not on the fact that our cognition is determined by social environment and practices entailing from it, but on the fact that it is this very environment and practices that *enable* us to acquire real cognition, provided their function is properly understood. Social factor, understood as the consciousness of a social or scientific community, becomes the guarantee of the reality of cognition, not an impediment, because the cognition shared within the community is objective and takes advantage of the reflection of the rational order which is inherent in reality. Likewise, with its openness, which Torrance views as its intrinsic component (which may be overlooked), the coefficient represents a reminder of the realistic imperative according to which the knowledge itself is not our ultimate goal, but the reality it refers to.

3.

It is evident that Torrance manages to incorporate the concept of 'theory-ladenness' within his framework of epistemological realism. He does so by showing that rational order is inherent in reality, and not just in the subject's mind or in the 'eternal' structures to which the empirical reality merely points. It cannot be excluded from our understanding of reality and it is for this reason that observation cannot be deprived of theory. Likewise, our cognition of reality cannot be deprived of the influence of subject, nor of the influence of social consciousness and language use. However, these influences do not represent theoretical frames which scientific observation could be inserted in. Our knowledge is real only when it is modelled by subject and its social context. The non-reflected social consciousnesses, as well as the articulated rationality of subject, express the very rationality inherent in reality. This is possible due to the existence of fundamental kinship between rationality present in human mind and the one inherent in nature. Torrance proves that the understanding, which is based on 'theory-laden' observations, that follows the line of argument that subject and social reality shape our knowledge, is a true argument in favour of realism, not anti-realism as is commonly held. I would say that Torrance demonstrates the possibility of the 'third way' – the way to advocate realism capable of incorporating ideas deployed by anti-realism. Such creativity deserves commendation as well as criticism which will come in due time.