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Method aims, first, to promote original research into the methodological foundations of the sciences and disciplines; second, to further interpretive, historical, and critical study of the philosophical, theological, and methodological writings of Bernard Lonergan; and, third, to encourage interpretive, historical, and critical study of thinkers, past and present, who address questions, issues, and themes in a manner that brings to light the foundational role of the intentional subject of consciousness.

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IN THIS ISSUE OF METHOD

Patrick Riordan, S.J., explores Lonergan's relationship to the German Constructivist School.

Dennis Klein compares Lonergan's notion of culture with that of practicing anthropologists.

Thomas Daly reports on his efforts to promote self-appropriation and a familiarity with cognitional operations among eleven-year-olds.

RECONSTRUCTION, DIALECTIC AND PRAXIS

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Bernard Lonergan's Method in Theology proposed a particular organization of the questions and methods of theology. This proposal arose from a prolonged study of human cognition begun in his earlier philosophical writings. The outcome of the philosophical reflection, from the Verbum articles to Method in Theology, was a generalized empirical method, which Lonergan proposed, not only as a contribution to the clarification of method in Theology but as articulating a method appropriate for all the sciences of culture. So far, his proposal seems to have evoked little response from practitioners within the mainstream of these sciences. However, there are other voices apart from his advocating similar shifts in method, and there are recurring problems within the realms of debate of these sciences which draw attention to the limitations of currently dominant methodologies. These voices point out in one way or another that the roots of social reality are to be sought in human meaning and purpose. The problems which provoke such remarks are typically the problems encountered when the explanatory concepts generated for the analysis of social reality fail to recognize that the human world is a world constituted by meaning. In this essay I will present one such voice and will report one set of problems which draws attention to the need for appropriate methods.

Firstly, I will present Lonergan's method for reconstructing the world as constituted by meaning, drawing attention to the notions of authenticity, dialectic and praxis. Secondly, as an example of another voice, I will present Oswald Schwemmer's practical philosophy. Schwemmer is a leading exponent of the contemporary German Constructivist School, and has written extensively on the problems of method in the cultural sciences. Thirdly, the problems associated with the definition of law and legal system in jurisprudence are taken as illustrating the issues for which Lonergan's and the Constructivists' proposals are solutions.

Loneragan on Reconstruction

Loneragan seems to be delighted with the definition of Philologie advanced by the nineteenth-century philologist, August Boeckh. He refers to it several times both in Method in Theology and in the papers in A Third Collection [1], and quotes it with obvious approval. "In a brilliant definition of the aim of Philologie and later the aim of history was conceived as the interpretative reconstruction of the constructions of the human spirit." He makes this remark in his article on "Natural Right and Historical Mindedness"[2], where he is contrasting the static, classical understanding of human nature, with historical mindedness. Reporting the discovery of human historicity and the development of the appropriate methods for understanding that historicity, Loneragan credits the German Historical School with the significant breakthrough. August Boeckh was a philologist, working primarily on the language and literature of ancient Greece, author of The Encyclopedia and Methodology of the Philological Sciences.

According to Loneragan, this definition of philology is fundamental to all disciplined attempts to understand human historicity. Historicity is contrasted with the constant, human nature. It is the changeable, variable component of human reality, and in various lists Loneragan indicates that he is referring to (1) cultural achievements -- "religions and art-forms, languages and literatures, sciences, philosophies, the writing of history," and (2) social institutions -- "the family, the state, the law, the economy"[3]. All these have a history, they undergo change, sometimes as progress and sometimes as decline. The key to understanding such cultural achievements and social institutions is to approach them as constructions of the human spirit. The word 'construction' is used in its obvious sense of making, building, producing. And the genitive is deliberately both subjective and objective: the constructing is done by the human spirit, and it is the human spirit which is constructed. In Loneragan's innocently sexist language, it is the "making of man by man."

Construction is a making, but what is made and what is changed is meaning. We are dealing with the human world, that constituted by meaning, to be distinguished from the world of immediacy. The latter is available to us now only in abstraction from our present adult existence, but we can

point to it as the world of the infant or of the animal. As adults we orient ourselves in a world which is a rich web of meanings. In order to understand this human world, that of cultural processes and achievements like religions and literatures, as well as that of social institutions, the family and the law, we must approach it and its elements as products of human making. To understand it we must reconstruct it. That is, we must reproduce the acts of meaning which originally constructed and still constitute the human world.

The constructions of the human spirit are man and his world: for his world is a world mediated by meaning and motivated by value; and it is the human spirit that constructs the meanings and responds to the motivating values. But what man has constructed, man can reconstruct. What man has responded to in thought and word and deed, he can respond to once more if only in thought and word and feeling. Such reconstructing and such responding-to-once-more are the interpretations of the scholar and the narratives of the historian. [4]

But is it really possible to reproduce the acts of meaning and purpose which generated the world we have inherited? It is in answer to this question that the traditional reflection on the constant in human reality, human nature, can be reconstructed to complement human historicity. The abstract possibility of an interpretative reconstruction of a prior construction is given in the oneness of the humanity common to the original constructors and the interpreters. This common humanity, traditionally referred to as human nature, is expressed by Lonergan in the fourfold structure of human consciousness: Experience, Understanding, Judgment, and Decision. Corresponding to these four levels are the four transcendental precepts which Lonergan proposes as articulating the common law of this nature: "be attentive, be intelligent, be rational, be responsible." The ongoing process of self-transcendence constituted by the dynamic of the corresponding questioning has its completion in the state of being-in-love [5].

The common humanity of original constructors and subsequent interpreters, so understood, grounds the abstract possibility of a successful interpretative reconstruction. Both the human world of cultural achievement and social institutions, and the interpretative reconstruction of the meaning and value which constitute that world, are products of the same human spirit. However, not every architect's dream is realized, many forces are brought to bear before a building is completed, and few are without fault. The original construction may well have been a successful realization of a well-founded plan,

or it may have been flawed in some way. Similarly, the effort at reconstruction may be a fine accomplishment of research and interpretation, or it may be flawed also. Either or both the original construction and the reconstruction may be authentic, or unauthentic. They are authentic in so far as they are cumulatively the result of a process in conformity with the transcendental precepts. They are unauthentic in so far as they are the product of cumulative inattention, obtuseness, unreasonableness or irresponsibility [6].

Authenticity is a fruit of the triple conversion, intellectual, moral and religious. But it is a precarious achievement, because unauthenticity is a constant possibility from a single failure to attend, to understand, to judge reasonably or to decide responsibly. For instance, misunderstanding can occur both because of the diversity of horizons and because of the great variety of specializations within horizons. Tim Lynch draws the useful distinction between the ordinary horizon of common sense, the out-of-the-ordinary horizon of the sciences, and the extraordinary horizon of metaphysics or methodological reflection [7]. One can operate in all three horizons, but the failure to advert to the shift as one moves from one to the other can lead to grievous misunderstanding. Within the horizon of common sense there is a great variety of self-understandings as reflected in the variety of languages and cultures at different times and places. And the great variety of question and method within the out-of-the-ordinary horizon of science further exacerbates the difficulty of attaining a correct interpretative reconstruction of the constructions of the human spirit.

Authenticity and unauthenticity occur both in the originating construction and in the interpretative reconstruction. The situation is further complicated by the fact that there can be both large and small scale authenticity. Lonergan distinguishes between the minor un/authenticity of the subject, and the major un/authenticity of a tradition [8]. As well as the possibility of breakdown for individuals, there is the possibility that whole communities may be sidetracked. Despite the best intentions and efforts of social actors or scientists, the set of meanings they have inherited from their social milieu or from the community of science may exhibit distortion due to some failure to attend, to understand, to judge and to decide. The bias of some particular perception, some particular interest or group may be solidified in the conventional wisdom of some culture or scientific community.

These brief reflections on the dynamic structure of human consciousness, on the triple conversion, on the precariousness of authenticity and the possibility of unauthenticity, on the plurality of horizons and on the variety of specializations within the horizons, highlight the complexity of the reality referred to as construction and reconstruction. If human studies involve the interpretative reconstruction of the constructions of the human spirit, then it must be recognized that (1) the human world to be understood may be a mixed product of authenticity and unauthenticity, and that (2) the attempt to interpret the human world may be affected by the personal or inherited unauthenticity of the investigators [9]. Lonergan distinguishes these as the objective and subjective aspects of one problem. Human sciences have developed appropriate methods corresponding to the objective pole, namely, dialectical analysis, as exemplified in Ricoeur's distinction of the hermeneutics of recovery and suspicion, Marx's critique of ideology, and Lonergan's own proposal of the functional specialty, Dialectic. He himself had applied the dialectic to the reconstruction of the debates within Christology and Trinitarian Theology. Dialectic is defined as the concrete unfolding of linked but opposed principles of change [10]. In the application of dialectic, social events can be retraced to their origin in two related but opposed principles of movement. In the on-going process of history dialectical reconstruction can discern either progress or decline. Both are cyclical and cumulative, the one rooted in authenticity, and the other in unauthenticity [11].

As well as the objective aspect of the problem to which dialectic is the appropriate methodological response, there is also a subjective pole. The interpreters and historians themselves may be rooted in an unauthentic tradition. They may be locked still in the age of innocence which takes authenticity for granted, which presumes that truth consists in necessary conclusions from self-evident principles and that reality is the already out there now real, or which relies on some postulated philosophy to solve such critical problems. Both the scholar and the community of scientists may be part of the problem which they identify and investigate. In that case it is not possible to solve the problem addressed without the scholar and perhaps the community of scholarship undergoing change.

Dialectic describes concrete process in which intelligence and obstuseness, reasonableness and silliness, responsibility and sin, love and hatred commingle and conflict. But the very people that investigate the dialectic of history also are part of that dialectic and even in their investigating represent its contradictories. [12]

The implication of this reflection is that the answers to certain questions in cultural studies will depend on the personal development of the scientists investigating those questions. To reconstruct the human world, they must reproduce the acts of understanding, judgment and decision which constitute that world, but the commitment, wisdom and intelligence required for such an accomplishment is not to be taken for granted.

The minor and major authenticities of scholars and their disciplines are important conditions of an adequate understanding of human affairs. This is a basic implication of Lonergan's reflections. Of course, he is primarily interested in theologians, but the same holds true for other disciplines [13]. Just as dialectic is the response to the objective aspect of the problem, praxis is identified as the response to the subjective pole. Praxis is the dialogue beyond dialectic. It is contrasted with empirical method which moves from below upward. The method of praxis flows from a decision and so moves from above down. The commitment to dialogue is a source of solutions to the subjective pole of the problem. The commitment to engage in discussion with others about divisive issues is rooted in an acceptance that their common humanity grounds the possibility of healing and reconciliation. Constitutive of that common humanity is the desire to understand, the capacity to judge reasonably and to evaluate fairly, and the openness to friendship and love [14]. In dialogue in which the partners reveal their humanity to one another there is the possibility of personal development, and therefore the possibility of that change or conversion in the scientist which is a condition for progress.

The human world is constituted by meaning, and the understanding of that world requires the interpretative reconstruction of the constructions of the human spirit. However, both the construction and the reconstruction may reflect authenticity or unauthenticity, on minor and major scales. Therefore the effort to understand the social world is fraught with difficulties. Insofar as the problem is located in the object of human studies, the appropriate method is dialectic. Insofar as the problem is located in the subject of human studies, praxis is the appropriate response.

Constructivist Practical Philosophy

The realization that the social world is a world constituted by meaning, and that the meanings of the scientist condition his or her understanding of that world, is not confined to Lonergan. Unpopular as such a viewpoint is in the context of the mainstream positivist philosophy of science, Oswald Schwemmer is one of a group of philosophers who attempts to answer positivist objections. This group of contemporary German and Austrian philosophers, referred to as Constructivists, or as the Konstanz-Erlanger-Schule because of their association with the universities in those places, are expressing concerns and taking positions in relation to human studies which bear certain similarities to those of Bernard Lonergan. Oswald Schwemmer is professor of philosophy at the Philipps University in Marburg, Germany, and he has written extensively in the fields of ethics, the methodology of the cultural sciences, and practical rationality.

A central element of constructivist method is that statements or positions are not justified merely by recourse to other statements or assumptions, but by recourse to the operations of the scientist, by which the statements or positions were generated [15]. These statements are constructions of the scientist and can be made intelligible in terms of the problems, goals and needs which provoked the activity. Theoretical activity is seen as rooted in the spectrum of the needs, goals and tasks of everyday life; the accumulation of knowledge is to be made intelligible and ultimately justified in terms of such needs or goals which are accessible in principle to any participant in everyday affairs [16]. So, for instance, Paul Lorenzen, one of the founders of this group, has shown that the basic units of number and measure in mathematics are not ultimate but are dependent on the fundamental activities of counting and measuring [17]. These activities have their context in the practical needs and goals of daily life: we count, because we need to know how many places to set for dinner; we measure to ensure there will be sufficient rice. Sometimes the counting and measuring requires sophisticated standards and techniques, but peculiarities provoke metaphysical problems about the objects counted or measured only if the basic operations and their contexts are ignored.

It is primarily the experience of error, breakdown, disagreement and conflict in everyday life which generates the need for reliable knowledge, both of the processes which are independent of human action, and of the patterns and products

of human action itself. Because the context is one of conflict, at least potentially, the knowledge claimed by an participant must be accessible in principle to all and capable of being defended against any challenger. This is the basis for the requirement that the scientist follow only such procedures in the activity of knowledge accumulation and use only such linguistic and other means as can be taught to or learned by others. This requirement is central to the constructivist program: it attempts to elaborate a general and controllable method whereby steps in theoretical construction can be identified and both challenged and defended.

These characteristics are reflected in Schwemmer's work in practical philosophy. Practical philosophy and ethics is admitted to be an activity, namely, the activity of constructing both language and criteria for moral arguments and for the cultural sciences [18]. This approach is in opposition to the dominant positivist trend in the philosophy of science. The task of ethics is set by the problems encountered in everyday life relative to which the demand for justification is raised. Similarly, the task of the cultural sciences is set by the problems of conflict [19]. Science can make a contribution to the solution of these problems by providing reliable information about processes which are independent of human activity. Accordingly, theoretical reason is seen as subordinate to practical reason: it doesn't make sense to invest a lot of effort in defending the theories one has generated unless there is agreement on why the relevant knowledge is needed. The first step in fulfilling the task is the construction of a regulated language and learnable principles to be used in justifying arguments [20].

In terms of these three features, the constructivist program can be seen to occupy the middle ground between the poles of Critical Rationalism, represented by Karl Popper and Hans Albert on the one hand, and the Critical Theory of the Frankfurt School on the other. In contrast to the critical rationalists, the constructivists want to subject the tasks and goals and the practical foundations of science to rational critique and to the demand for justification. While they share this concern with the critical theorists, the constructivists insist that the setting of the goals and of the procedures of science must be accomplished in controllable steps: "self-evident options" for the goal systems of one class are to be replaced by a procedure for the setting

of goals which is in principle accessible to anyone [21]. Thus they straddle both positions in admitting the purposes of scientific endeavor to the agenda of scientific discourse, while requiring strict methodological regulation of that discourse.

In his ethics, the discussion about the justification of norms and the principles of justification, Schwemmer constantly shifts attention from the question whether such justification is possible to the question why it is needed at all. Whatever purpose justification is intended to achieve will determine what is to count as successful justification. That purpose is set by the context of practical conflict, in which the demand for the justification of proposals arises. It is the commitment to resolve such conflict by talking rather than with force which grounds the search for the appropriate linguistic means and practical principles. What kind of talking, what sort of arguments would be adequate to satisfy the demands for justification raised in situations of conflict? Guided by this question, Schwemmer constructs an idealized language for arguments concerning activity in pursuit of goals in conflict situations. This language includes the terms action, goal, maxim, norm and interest. Because it is idealized, this vocabulary allows participants to present their arguments in justification of their own positions in terms intelligible to those who might oppose them.

The terms in which conflicted parties present their cases may be mutually intelligible, but the argument cannot proceed to a conclusion without accepted criteria for what is to count as justification. Therefore, in a further step, a reconstruction of the Kantian Categorical Imperative, Schwemmer proposes two principles to guide argument for the handling of conflict. These principles are available to assess the validity of any argument made in support of a proposed action, goal, law or norm. Justification then is the activity of presenting arguments to elicit agreement or cooperation, whereby the standards of validity are the principles derived from the commitment to handle conflict by talking.

Similarly, when considering the cultural sciences, Schwemmer asks the fundamental question why an interpretation or explanation of human activity is needed. Using the term cultural science to include all those sciences which investigate human action as subject to norms, i.e., human doing and making which is accessible to argument, his question asks why the accumulation of knowledge of this activity and

its products is deemed necessary and worth the effort invested. The tasks and methods of these sciences can be meaningfully discussed only after this fundamental issue has been clarified [22]. This is a challenging question in the context of the prevalent dissatisfaction with a sociology and an economics which are often seen to do little more than regularly generate descriptions and quantifications of problems while having nothing to say in their evaluation and solution. Once again, Schwemmer's question introduces him to the debate between critical theory and the positivists at the very point on which they disagree.

Schwemmer's proposed answer is based on his understanding of ethics as the formulation of principles to guide activity directed to the non-violent resolution of conflict. The application of these principles to the resolution of present conflict and the prevention of possible conflict requires the accumulation of reliable knowledge, not only of a technical kind (the effects of actions in various situations), but also of the actions and reactions which can be expected of affected persons. This is not the same as Machiavelli's suggestion that the successful operator must take into account the likely behavior of others in reaction to his machinations. Rather it is a matter of anticipating the arguments and reasons which might be raised by partners in conflict with a view to incorporating those of their concerns which are valid in the proposed solution. The application of the principles of justification to particular instances requires knowledge of the goal structures of the partners, some of whose goals are incompatible and the source of conflict. Such knowledge, in order to be of use in a practical consultation, must be acceptable in principle to any of the conflicting parties as a basis in terms of which the problem can be specified and proposed solutions can be worked out. The knowledge to be generated and used must be transsubjectively defensible. This requirement marks the distinctive task of a science: for the cultural sciences, therefore, it is the task of constructing defensible interpretations of the goal and norm systems of potential or actual conflict partners. Accordingly, they are given the task of establishing the relevant norms in conflict situations, and on the basis of criticism based on the two principles of justification, of selecting the norms which as justified are worthy of being followed, or devising proposals of possible solutions.

The interpretation of conflict-relevant norm systems makes it possible for participants to anticipate the arguments of partners in conflict, so that they can argumentatively plan their action; the generation of such interpretations is the contribution of the cultural sciences to the violence-free resolution of conflict [23].

Schwemmer's approach gives the cultural sciences a very specific practical task and relevance. Science as a socially regulated activity, requiring social cooperation and allocation of resources, is not for its own sake, and its goal of accumulating knowledge is in need of justification [24]. These sciences are not justifiable as indifferent spectators of cultural life and action, but have a practical role to fulfil in making our common life and action more rational. The method of the cultural sciences is also determined by this task. Since their task is specified in relation to conflict and the anticipation of the arguments of affected participants, the language available for interpretation and explanation is the same as the language generated for justification. Interpretation proceeds by reconstructing the arguments which might have been made by those whose actions and conformity to norms constitute the situation of conflict. Their method can be summarized as a dual reconstruction.

Following Lonerzen's proposals in Normative Logic and Ethics Schwemmer outlines the procedure of the cultural sciences as the factual reconstruction of a conflict-relevant situation, followed by its normative reconstruction [25]. In the first step, the action patterns of conflicting groups are to be interpreted in terms of goals, and these goals are then to be structured in a system of inferior-superior goals, according to the criterion whether a goal is pursued partly also as a means to assuring the attainment of another goal. This structuring of the goal or norm system of a group is termed its factual reconstruction. The actual historical sequence in the emergence of the goal or norm system can offer guidelines to the cultural scientist in reconstructing the relationship of means to goals which exist among the group's goals. However, the concern is not with how the present situation came to be, but with the intelligible pattern of relationships in the existing goal and norm systems. The factual reconstruction is the production of a hypothetical model showing the intelligible relationships among the various norms actually complied with.

In the second step, each stage in this hypothetical model is to be tested for its rationality in terms of the ethical principles of justification. Can each stage in the hierarchy of goals be approved of as the hypothetical outcome of a practical consultation of all affected persons? Are there reasons which would indicate that some of the affected participants would not have been willing or able to concur in the actual development, either because their legitimate concerns were excluded from consideration or because the actually favored proposals were in fact maxims representing sectional interest? This evaluative review of the factual reconstruction of the goal and norm system is its normative or critical reconstruction. If the goal and norm systems can be reconstructed as morally justifiable, with the exceptions of the presently conflicting goals and corresponding norms, then the principles of justification can be applied and the handling of the conflict facilitated.

From this brief survey perhaps it is possible to list a number of areas of similarity of ideas between Schwemmer and Lonergan. They agree that (1) the human world is a world constituted by meaning, but that since there may be unauthenticity or unjustifiable constructions, there is need for (2) dialectic with regard to the content of reconstruction, and (3) praxis with regard to the subjects of reconstruction.

On Schwemmer's proposal for the method of the cultural sciences, the structures and products of human activity are to be interpreted by reconstructing the arguments which could have been made by the people who built and operate them. The language of explanation in human studies is the same as the language of justification, i.e., the language with which one argues in defense of one's activity. As a result, the human world is understood as constituted by the acts of meaning which went into its construction, so that the interpretation of that world and its elements requires the reproduction of those originating acts of meaning. The attention to idealization in the reconstruction of that meaning reflects a skepticism about the self-interpretation by those involved. The distinction of spontaneous self-interpretation and idealization in controllable terms parallels Lonergan's distinction of the horizons of common sense and science.

There is no guarantee that the actions of the past or its products can be rationally defended. Justification is not guaranteed. The centrality of justification in relation

to conflict in Schwemmer's thought corresponds to the centrality of authenticity in Lonergan's scheme. The human sciences must admit the possibility of distortion and unauthenticity. Lonergan's outline of the appropriate methodological response as dialectic has its counterpart in Schwemmer's program of a double reconstruction. The interpretation of actions as their products consists in the reconstruction of the arguments which could be made for them. This involves two steps which Schwemmer distinguishes as factual and normative reconstructions. The factual reconstruction is the production of a hypothetical model showing the intelligible relationships among the various norms actually complied with by a group in conflict. In the second step, each stage in this hypothetical model is to be tested for its rationality, relative to criteria generated in an ethics concerned with conflict resolution. This dual reconstruction corresponds to the method of dialectic as a response to the objective pole of unauthenticity.

Just as dialectic corresponds to the objective pole of the problem identified by Lonergan, praxis corresponds to the subjective pole. Dialectic is accounted for in Schwemmer's proposals in the construction of a dual interpretation, the second normative reconstruction being an evaluation of the first according to recognized criteria. The subjective pole of the problem is catered for also in an equivalent of praxis. Schwemmer maintains that there is little point in engaging in a debate about the formal criteria for the justification of norms (ethics) or in a debate about the appropriate methods of the cultural sciences, until the scientist has clarified why s/he wants such justification or science at all. Methods of justification or of science can only be assessed relative to the purposes for which they are designed and applied. In Schwemmer's proposals for these disciplines, the non-violent resolution of conflict provides a purpose for the sake of which adequate methods are developed and systematically applied. Adoption of the method of reconstruction relies on an acceptance of the program of the non-violent resolution of conflict. This in turn implies (a) a willingness to use language and arguments which are in principle learnable and teachable for any partner in dialogue; and (b) a willingness to subject one's own interpretations and proposals to the demand for justification and to critical assessment. The philosophers

and academics must so behave and live that they constitute a form of life within which dialogue is practiced and talking to resolve conflicts can take place.

The Problem of Definition in Jurisprudence

John Finnis's account of the problem of definition in jurisprudence provides a useful example to illustrate the themes of reconstruction, dialectic and praxis [26]. Finnis reports a debate on the definition of law in contemporary positivist philosophy of law. As he sees it, the debate has developed to the point where it is generally recognized that an adequate definition would have to mention the functions of law. However, the identification of the law's function could be done only by reproducing the arguments of (some of) those who construct and implement the law and its institutions. In Finnis's opinion, the various attempts to do this are handicapped by the inability to assess critically the arguments which might be made in justification of a legal system. The kernel of Finnis's challenge to positivism is the thesis that the justification and explanation of legal institutions and systems of law is best achieved by presenting the reasons which a proponent of those institutions and laws would give in explaining his or her consent and conformity. Obviously, criteria are needed to distinguish the various possible reasons, in order to select those which have explanatory force: not every argument which can be made ought to be accepted at its face value. But the fundamental issue is that justification and explanation are to be located within the range of the reasons which affected persons can give for their action or conformity.

This central point is already accepted in principle within analytic legal science. Finnis reports the criticisms which H. L. A. Hart and Joseph Raz make against the traditional positivist definitions of law, derived from the writings of Bentham, Austin and Hans Kelsen. Common to the methods of these three authors was the search for a distinctive element which was to be found in all instances of which one could use the word "law". Both Bentham and Austin identified that characteristic element as the expression of a sovereign's will [27]. Kelsen goes beyond the notion of a ruler's command favored by Bentham and Austin to include the element of function. He defines law as "the social technique which consists in bringing about the desired social conduct of men through the threat of a measure of coercion which is to be applied in case of contrary conduct" [28]. Social control, "the

promotion of peace," is the end to which the law as a system of directives and threats is intelligible as means. Kelsen defends this understanding of law as being applicable to all possible cases, ranging from the despotic leadership of a tribal chieftain to the Constitution of a Swiss Republic, since the specific social technique of control through threat is the same for all these cases. The identification of this single common feature makes it possible to generate a univocal concept of law. Despite its limitations, Kelsen's definition marks an advance on the reflections of Bentham and Austin in that he includes the point or function of law in its definition.

According to Finnis, Bentham, Austin and Kelsen were uncritical of the evaluations implicit in their preferred definitions of law. He adopts the criticisms voiced by three contemporary philosophers of law, H. L. A. Hart, Joseph Raz and Lon Fuller, because they appreciate the methodological problems involved in specifying which elements of legal phenomena are to be deemed important in forming explanatory concepts [29]. This advance in the generation of explanatory concepts is achieved by their attention to the following three features: (1) practical point; (2) the selection of central case or focal meaning; (3) the selection of viewpoint.

(1) Practical Point: Although Hart, Raz and Fuller offer different specifications of the point or function of the law, they all include consideration of the "practical point" of the law as essential to its description. Hart does not dispute Kelsen's specification of law as a "method of social control," but he rejects his description of the means as undifferentiated. The notion of control through threat does not adequately represent the different social functions which different types of legal rule perform, as for example the various laws conferring legislative or other powers. Secondary rules, including (a) rules of recognition for the identification of valid laws, (b) rules of change conferring powers of legislation, etc., and (c) rules of adjudication regulating the application of the law, are designed to overcome the defects of (a) uncertainty (what is the law?), (b) stagnation (e.g., laws as solutions to problems can become fossilized when the problems no longer occur), and (c) inefficiency (e.g., the danger of vendetta in restitution and punishment cases) in codes of merely primary rules [30]. The practical point of law is correspondingly complex: it is intended for the guidance both

of officials and of citizens, both rulers and subjects; it is designed to remedy the defects of a pre-legal system of commands or practices; it is designed to guarantee the survival of a society; and it is addressed to its subjects as giving them practical reason to comply with it.

Finnis couples Raz's understanding of the point of law with that of Ron Fuller. Fuller rejects Kelsen's general category of law as a means of social control as being inappropriate. He does not dispute the distinction between rulers and ruled, but holds that the relationship between them as structured by law is radically different from a relationship in which rulers exercise managerial direction over subjects. The critical difference is given by the fact that in a legal system, the officials are also bound by the rules which they promulgate. Fuller sees law, not as a means of control, but as an instrument of collaboration and reciprocity. Raz also focusses on this element of the law, namely that the law guides the authoritative institutions as well as the actions of individuals which may be judged by those institutions. He also rejects the inclusion of the threat of sanctions as a major element in the understanding of law: the main functions of law would still be necessary in a society which did not require the additional motivation given by the threat of sanctions. Although Hart, Raz and Fuller refer to the purpose of law and legal system in their definitions, they differ in their selection of elements for the specification of that purpose. This provokes for Finnis the question as to the criteria for the selection of significant elements to be incorporated in the definition: "from what viewpoint and relative to what concerns are importance and significance to be assessed?"

(2) Central Case: Kelsen demanded univocity in the construction of explanatory concepts: he looked for a term which could be applied in the same sense to all the states of affairs which are in fact qualified as "law" in non-theoretical discourse. Hart and Raz reacted to this demand for univocity. They considered that the general terms of any cultural science must be capable of extension to a broad spectrum of instances though not always in the same sense. Hart speaks of a principle to guide this extension [31]. Raz speaks of a typical instance in such a spectrum, in which all the traits included in the concept are present to a high degree, and further instances in which some or all of these traits are present in a lesser degree, or in some cases absent altogether. As well as the typical instances, there are divergent or borderline cases

to which the explanatory term may also be applied, once the dissimilarities to the typical instance, i.e., the degree of divergence, is indicated [32]. However, the adoption of a method of analysis of central cases poses the same methodological problem as above: according to what criterion is one case to be considered central and another peripheral, one element or function of law significant, and another less important?

(3) Selection of Viewpoint: Both Hart and Raz maintain that the legal scientist must adopt or reproduce "a practical point of view" on the basis of which s/he can select the central case. A practical point of view is the attitude of one who considers what s/he will do and what s/he ought to do. The scientist must reproduce the point of view of those whose decisions and actions constitute the subject-matter to be explained. Hart speaks of the "internal point of view," i.e., the viewpoint of people who use the law and its rules as "standards for the appraisal of their own and others' behavior." Raz refers to the "legal point of view" which is proper to people who "believe in the validity of the norms and follow them." The internal or legal point of view is contrasted with an external attitude to the law, which might see rules as signs of possible punishment, or as prognoses of probable future behavior, and from which conformity is chosen in preference to accepting the punishment which accompanies non-compliance.

Finnis argues that the legal or internal point of view does not offer a stable solution to the problem of a criterion for distinguishing between central and peripheral cases. Hart and Raz refuse to further specify this "point of view," even though they recognize that a variety of internal viewpoints is possible. Raz even allows the legal point of view to encompass that of an anarchist who becomes a judge "on the ground that if he follows the law most of the time, he will be able to disobey it on the few but important occasions when to do so will most undermine it" [33]. Hart admits the unreflected traditional attitude and the wish to conform as also belonging to the internal point of view. Finnis challenges the acceptability of some of these viewpoints as the source of criteria: apart from the argument that many of the people included as holding an internal point of view would neither regard themselves nor be regarded by their fellows as paradigmatic, such descriptions are hardly adequate for people who would not

only comply with the law, but would cooperate in the function of the law as these authors specified it: to remedy the various defects of pre-legal social orders, and to solve problems of coordination.

If the line of thought advanced by Hart and Raz is to be coherent and solve the problems they set themselves, then they must further specify the internal point of view. Finnis accepts their thesis that an explanatory jurisprudence or any cultural science must adopt the practical point of view of those who are in fact practically reasonable in their activity of administering and reforming and complying with the law, or the equivalent cultural construct. Explanatory social theory "cannot do without the concepts found appropriate by men of practical reasonableness to describe to themselves what they think worth doing and achieving in the face of all the contingencies, misunderstandings and myths confronting them in their practice" [34]. The theorist must undertake the construction of concepts with reference to the practical problems perceived by concerned persons, and their interpretation of their activity and its products as attempted solutions to these problems. Accordingly the purpose and concern of legal or cultural science is to assist the practical reflections of those who are obliged to act in these practical affairs, whether as citizens or judges or politicians [35].

Given the variety of possible descriptions of practical viewpoints, the theorist needs some critical tools for distinguishing between them in order to select the appropriate practical viewpoint with its perception of the law's practical point. Knowledge of the structure and principles of practical reason is a prerequisite of any critique of practical viewpoints. Where such a critique is lacking, the selection and formation of explanatory concepts is bound to be arbitrary. In Natural Law and Natural Rights Finnis attempts to provide such an analysis of practical reason, as a possible basis for the critique of explanatory viewpoints and concepts in jurisprudence and the cultural sciences. In comparison with the internal viewpoints identified in the writings of Hart and Raz, Finnis aims at the construction of an unrestricted practical viewpoint, one which does not arbitrarily exclude any area of the human good nor any requirement of practical reasonableness. The adequacy of explanation in the cultural sciences is a function of the limitations or unrestrictedness of the practical viewpoint adopted by the scientist or by the community of scientists in the relevant discipline.

Although the natural law philosophy advocated by John Finnis has had a mixed reception [36], the question he raises about the methods of the cultural sciences requires an answer. His emphasis on meaning, on the varieties of possible meanings, and on the practical stance of the scientist remain as a challenge to the mainstream philosophy in the cultural sciences. His approach to the discussion of law is based on the recognition that the legal world is constituted by meaning, and that efforts to interpret the law must take account of the acts of meaning which constitute it. The reconstruction of that meaning is fraught with the difficulties which Lonergan identified as the objective and subjective poles, requiring the responses of dialectic and praxis. Finnis does not explicitly distinguish these poles nor their corresponding methodological responses, but they are implicit in his discussion. The analysis he undertakes is an example of praxis, namely the dialogue in which the participants are challenged to re-examine their own practical commitments, because these are foundational for the explanatory concepts of jurisprudence. The debate which Finnis reports is a search for adequate concepts to describe the phenomena of law in complex and diverse societies. This complexity is the source of the variety in the definitions of law, and as such it reflects the objective pole of the problem. The element of dialectic is present in Finnis's contribution, in articulating the spectrum of practical viewpoints in relation to a selected central case. For both praxis and dialectic the standard for assessment of positions is the best position achieved in the community of those involved in constructing and applying law. The philosophical agenda is set by the problem of identifying this best position. Finnis does not have Lonergan's analysis of authenticity, but he does have a parallel concern with the dynamic of the operations of human knowing and doing, and with their orientation.

Conclusion

My purpose has been to show that there are problems within the cultural sciences for which Lonergan's methodological proposals are helpful, and that there are other voices expressing similar concerns in the fields of human studies. The emphasis on meaning in constituting the human world, and the aspects of dialectic and praxis in the activities of cultural scientists in reconstructing that meaning have their parallels and echoes in the work of Schwemmer and Finnis. Both give (1) priority to practical interest in the interpretation of

cultural constructs, and (2) both rely on the reconstruction of the arguments of actors as the method for explaining their action. They differ however in the specification of the practical interest, and in the specification of what is to count as argument. For Schwemmer, the non-violent resolution of conflict provides the motivating concern for investing effort in ethics and in cultural science; both ethics and science are relativized to instances of conflict, either potential or actual. For Finnis, the practical interest is located in the concerns of persons committed to the operation and reform of legal and other cultural constructs.

That the human world is constituted by meaning is accepted and reflected in the approaches of these two scholars. That the source of meaning is polymorphic is also accepted, along with the need to discriminate between adequate and inadequate constructions. Both Schwemmer and Finnis recognize that a variety of internal practical viewpoints are possible, and that it is necessary to discriminate between them. The objective pole of the problem, which Lonergan solves with his proposal of dialectic, is catered for by Schwemmer in the dialectic of factual and normative reconstruction, and by Finnis in the dialectic of restricted and unrestricted viewpoints. The subjective pole of the problem to which Lonergan points with his proposal of praxis also has its corollaries in Schwemmer's adoption of the task of practical justification and the commitment to enter into dialogue, and in Finnis's proposal of substantive ethics. Both challenge the cultural scientist to espouse the preferred practical viewpoint. It is only relative to an acceptance on the part of the scientist of the task of practical justification in the context of conflict that Schwemmer's proposed program of reconstruction and justification is defensible. Similarly, the construction of explanatory concepts and theories from within Finnis's unrestricted practical viewpoint depends on acceptance of that viewpoint, since it is the context for the specification of function and purpose, including that of the scientist.

The problems which we encounter in our social, economic, cultural and political worlds are discovered to be of human making, precisely to the extent that the making is less human than it might be. The scientist or indeed the scientific community who interpret the problem are themselves part of the problem to the extent that their interpretative reconstruction replicates the less than human making, or fails to reach up to the achievements of the past. Lonergan's voice is not alone

in drawing attention to these issues and there are real concerns in the whole field of cultural and human studies to which his methodological proposals are directly relevant.

NOTES

[1] B. Lonergan, Method in Theology, 2nd ed. [London: Darton, Longman & Todd, 1973], pp. 208-212; A Third Collection. Papers by Bernard J. F. Lonergan, S.J., ed. Frederick E. Crowe, S.J. [NY: Paulist Press, 1985], pp. 64, 153ff., and 171.

[2] A Third Collection, pp. 169-183, at p. 171.

[3] Ibid., p. 170.

[4] Lonergan, "The Ongoing Genesis of Methods," in A Third Collection, pp. 146-165, at p. 155.

[5] Lonergan, "Natural Right and Historical Mindedness," in A Third Collection, pp. 169-183, at p. 175.

[6] Lonergan, "Dialectic of Authority," in A Third Collection, pp. 5-12, at p. 7.

[7] Tim Lynch, "Philosophy and Culture," Milltown Studies 17 [1986]: 35-64. Cf. Lonergan's discussion of the issue of horizon and diversity in the section "Specialization" of "Aquinas Today: Tradition and Innovation," in A Third Collection, pp. 35-54.

[8] Lonergan, "Christology Today: Methodological Reflections," in A Third Collection, pp. 74-99, at p. 80; cf. also "Dialectic of Authority," p. 8.

[9] "The Ongoing Genesis of Methods," p. 157.

[10] Lonergan, Insight, 3rd ed. [NY: Philosophical Library, 1970], p. 217: "Summarily, then, dialectic denotes a combination of the concrete, the dynamic, and the contradictory; but this combination may be found in a dialogue, in the history of philosophic opinions, or in historical process generally. ... Thus there will be a dialectic, if (1) there is an aggregate of events of a determinate character, (2) the events may be traced to either or both of two principles, (3) the principles are opposed yet bound together, and (4) they are modified by the changes that successively result from them."

[11] Lonergan, "Healing and Creating in History," in A Third Collection, pp. 100-109.

[12] "Natural Right and Historical Mindedness," p. 182.

[13] "Theology and Praxis," in A Third Collection, pp. 184-201.

[14] "Natural Right and Historical Mindedness," p. 180.

[15] Cf. Kuno Lorenz, "Introduction," Konstruktionen versus Positionen. Aufsätze zur Wissenschaftstheorie, 2 vols., ed. K. Lorenz [Berlin: de Gruyter, 1976], vol. I, p. xiii.

[16] Oswald Schwemmer, "Konstruktion," in Edmund Braun, Hans Radermacher, ed., Wissenschaftstheoretisches Lexikon [Wien: Styria, 1978], pp. 330f.

[17] Paul Lorenzen, Einführung in die operative Logik und Mathematik [Berlin, 1955]; cf. also Lorenzen, Metamathematik, 2nd ed. [Mannheim: bibliographisches Institut, 1980].

[18] Schwemmer, "Grundlagen einer normativen Ethik," in Friedrich Kambartel, Jürgen Mittelstrass, ed., Zum Normativen Fundament der Wissenschaft [Frankfurt: Athenäum, 1973], pp. 159-178; Schwemmer, "Vernunft und Moral. Versuch einer kritischen Rekonstruktion des kategorischen Imperativs bei Kant," in G. Prauss, ed., Kant. Zur Deutung seiner Theorie vom Erkennen und Handeln [Köln: Kiepenheuer und Witsch, 1973], pp. 255-273; Schwemmer, Philosophie der Praxis, 2nd ed. with Appendix [Frankfurt: Suhrkamp, 1980]; Schwemmer, Lorenzen,

Konstruktive Logik, Ethik und Wissenschaftstheorie, 2nd improved ed. [Mannheim: Bibliographisches Institut, 1975].

[19] Schwemmer, Theorie der rationalen Erklärung. Zu den methodischen Grundlagen der Kulturwissenschaften [München: Beck, 1976]; Schwemmer, "Praktische Begründung, rationale Rekonstruktion und methodische Überprüfung," in Hans Lenk ed., Handlungstheorien Interdisziplinär [München: Fink, 1978] Vol. II, pp. 535-580; Schwemmer, "Verstehen als Methode. Vorüberlegungen zu einer Theorie der Handlungsdeutung," in Jürgen Mittelstrass, ed., Methodenprobleme der Wissenschaften vom gesellschaftlichen Handeln [Frankfurt: Suhrkamp, 1979], pp. 13-45; Schwemmer, Handlung und Struktur. Zur Wissenschaftstheorie der Kulturwissenschaften [Frankfurt: Suhrkamp, 1987].

[20] Schwemmer, ed., Vernunft, Handlung und Erfahrung [München: Beck, 1981], p. 9.

[21] Cf. the "Introduction" in F. Kambartel, J. Mittelstrass, ed., Zum Normativen Fundament der Wissenschaft.

[22] Cf. Schwemmer, "Praktische Begründung," p. 535; cf. also Schwemmer, "Begründen und Erklären," in Jürgen Mittelstrass, ed., Methodologische Probleme einer normativ-kritischen Gesellschaftstheorie [Frankfurt: Suhrkamp, 1975], pp. 43ff; Schwemmer, Theorie, pp. 19f.

[23] Cf. Lorenzen, Schwemmer, p. 170; Schwemmer, Theorie, p. 35.

[24] Cf. Schwemmer, Theorie, p. 20, where he refers to Kuno Lorenz, "La Science pour la Science. Bemerkungen zu umstrittenen Autonomie der Wissenschaften," in Kambartel, Mittelstrass.

[25] Lorenzen, Normative Logic and Ethics [Mannheim: Bibliographisches Institut, 1969], p. 85. In order to avoid possible misunderstanding, Lorenzen and Schwemmer's term Genese is translated as "reconstruction"; this word better expresses the fact that a Genese is the product of the scientist's regulated interpretative activity.

[26] John Finnis, Natural Law and Natural Rights [Oxford: Clarendon Press, 1980], Chap. I.

[27] Ibid., pp. 3-6. [28] Ibid., p. 19.

[29] H.L.A. Hart, The Concept of Law [Oxford: Clarendon Press, 1961], Chs. I-IV; Joseph Raz, Practical Reason and Norms [London: Hutchinson, 1975]; Lon Fuller, The Morality of Law, revised ed. [New Haven & London: Yale U. Press, 1969].

[30] Cf. P.M.S. Hacker, "Hart's Philosophy of Law," in P.M.S. Hacker, Joseph Raz, ed., Law, Morality and Society. Essays in Honour of H.L.A. Hart [Oxford: Oxford U. Press, 1977], pp. 1-25.

[31] Hart, pp. 210, 234. [32] Raz, p. 150.

[33] Ibid., p. 148. [34] Finnis, p. 16.

[35] Ibid., p. 18.

[36] Cf. Russell Hittinger, A Critique of the New Natural Law Theory [Notre Dame, IN: U. of Notre Dame Press, 1987].

CONCEPTS OF CULTURE:
LONERGAN AND THE ANTHROPOLOGISTS

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My aim in this paper is to develop a comparison between Bernard Lonergan's notion of culture and the notion of culture that is generally used by modern-day anthropologists. For it is most notably within our modern science of anthropology that the term 'culture' has come to assume a position of central importance and has thus become the subject of countless inquiries and investigations documented and criticized throughout the vast array of scientific journals, books, monographs, and periodicals that have made their appearance within the world of anthropological endeavors.

In fact I have chosen one of these works to guide me in the rather formidable task of trying to come to some basic understanding of what has been said about culture within the confines of a scientific field that is neither familiar to, nor within the competence of, the present writer. In 1952 A. L. Kroeber and Clyde Kluckhohn published a work that became Volume XLVII, No. 1 of the Papers of the Peabody Museum of American Archaeology and Ethnology (Harvard University). This work was entitled Culture: A Critical Review of Concepts and Definitions. In 1963 it was reprinted by Random House as a Vintage Book [1]. In it the authors presented more than one hundred and fifty definitions of the word 'culture' taken from the writings of many anthropologists, sociologists, psychologists, and others. By careful examination they were able to classify these many definitions into several main types. They also provided their readers with a general history of the word 'culture' and included as well an anthology of extended statements about culture -- its nature, components, distinctive properties, and its relationship to language, to society, to the individual personality, and to the natural environment.

While it would be impossible, of course, to give a sufficient indication of the wealth of material in this volume, I have nonetheless found it to be an invaluable source of information for my own survey and appraisal of the technical notion of culture that has been in use within the realm of anthropology ever since the landmark publication of E. B.

Tylor's Primitive Culture in 1871 [2]. I should like to begin, however, with a distinction of my own: I shall attempt to structure my comparative analysis in accordance with a basic division between a descriptive approach to culture and an explanatory approach. After a descriptive account of the subject matter (cultural phenomena) that most properly belongs to cultural studies, one can then attempt an explanatory account of the subject matter so described. We shall find that with regard to each of these two approaches Lonergan's thought on culture differs rather significantly from that of the anthropologists.

I. Description

A. The Anthropologists: Descriptive Definitions as (1) All-Inclusive and (2) Enumerative of (a) Cultural Factors and (b) Cultural Features

First of all we ought to take note of the fact that most descriptive definitions of culture within the realm of anthropology tend to be all-inclusive. That is to say, at least implicitly their basic intention is to include everything on the social or communal level that distinguishes humankind as such from all forms of animal and plant life, everything that is specifically human or that somehow belongs to human beings and to human beings alone, everything that cannot be included under the heading of 'nature' and therefore rightly belongs to the sphere of 'culture.' We might say, then, that generally speaking culture for the anthropologists tends to be synonymous with the collective aspects of the specifically human sphere of reality in all of its various dimensions. While Kroeber and Kluckhohn provide numerous quotations wherein this aspect of inclusivity is quite clearly indicated, limitations of space make it advisable that here as elsewhere within the main body of this paper I give a small sample of just two examples and reserve references to further examples for the endnotes. In this instance, our two examples are as follows:

Civilization or culture should be understood here in the sense of a possible minimum definition, that is, it includes whatever is above the animal level in mankind. [KK: p. 139/#4]

The term culture is used to signify the sum-total of human creations . . . [It] includes . . . aspects of human as distinct from animal life. Everything, material and immaterial, created by man, in the process of living, comes within the concept of culture. [KK: p. 126/#8][3]

Culture, then, has become the "central concept of anthropology," [4] and in its broad anthropological sense it functions as one of the "key notions" within contemporary scientific thought. As such it can be characterized as a "fundamental and inclusive concept," [5] a "generalized concept" [6] that embraces everything that is specifically and exclusively human and that is shared in some communal fashion by the members of a human group or society.

The second observation about the descriptive approach to culture builds upon this notion of inclusivity. If culture in its modern anthropological sense is indeed a highly technical and specialized concept, descriptive definitions of culture taken in this specific sense usually prove to be of the enumerative type. That is to say, they often tend to enumerate some of the various kinds of things that the author in question would consider to be examples of cultural phenomena. Such definitions list certain factors or components that comprise or constitute or make up the very sum and substance of a culture. As such they approach culture from the point of view of its content. But besides the content of a particular culture, a descriptive definition may also attempt to indicate some of the characteristic traits or features that belong to this content, i.e., the essential properties or attributes which properly belong to all of the things that can be labelled and listed as cultural phenomena. And, of course, beyond this mere enumeration of component factors and characteristic features a more complete description may be given which will attempt to fill out and elaborate upon this bare inventory or catalogue by analyzing and reflecting upon such factors and features at greater length and in greater detail.

Let us first consider some of the factors which anthropologists have included within their descriptive definitions as elements which serve to specify the content or make-up of a culture -- the very 'stuff' out of which a particular culture is formed or fashioned. I shall attempt to organize my observations by classifying these various different factors under general headings, headings provided by two basic divisions or differentiations sometimes made by anthropologists themselves.

A distinction is sometimes made between cultural phenomena that are covert, internal, and therefore non-observable and those that in contrast are overt, external, and therefore quite readily observable. The latter are frequently taken

to be results, products, expressions, manifestations, or objectifications of the former. Variations on this particular classification or cultural phenomena include the division or differentiation between material culture and spiritual or mental culture, between behavioristic cultural factors and idealistic cultural factors, between cultural 'percepta' and cultural 'concepta,' and finally between explicit and implicit aspects of a culture. The following two passages may be cited as representative of the basic distinction I have in mind:

Culture includes not only the outward, visible acts of individuals, but also behavior that is not readily observable -- feeling, thinking, believing. The first category is often referred to as overt behavior, and the second as covert behavior. [7]

[Culture includes] on the one hand, the whole of man's material civilization, tools, weapons, clothing, shelter, machines, and even systems of industry; and, on the other hand all of non-material or spiritual civilization, such as language, literature, art, religion, ritual, morality, law, and government. [KK: p. 159/#2] [8]

The overt-covert distinction, then, would differentiate between two types of component factors within any one particular culture: on the one hand, there are observable cultural phenomena such as physical or bodily human behavior, the results or products of such behavior in terms of tools, buildings, or artifacts of any kind, and also all the various kinds of signs, symbols, and sensuous carriers or embodiments that transmit and communicate cultural meanings and values; on the other hand, there are the different types of non-observable cultural phenomena that properly belong to the spiritual or mental realm of thought and experience, feeling and sentiment, knowledge and belief -- the interior realm that is most often associated with ideas, concepts, emotions, moods, motives, hopes, dreams, judgments, deliberations, decisions, norms, values, ideals, objectives, attitudes, outlooks, and dispositions.

Superimposed upon this particular classificatory schema and thoroughly intertwined with it there is yet another basic distinction that is sometimes made by social scientists -- a distinction that focuses upon the technical, the social, and the ideological as three clearly differentiated yet inter-related aspects of any culture:

Cultures are built up out of patterned and interrelated traditions . . . traditions in technology, social organization, and ideology. [9]

The major domains of culture are (1) the relation of man to nature, subsistence concerns, techniques, 'material' culture; (2) the more or less fixed interrelations of men due to desire for status and resulting in social culture; (3) subjective aspects, ideas, attitudes and values and actions due to them, insight, 'spiritual' culture. [KK: p. 187][10]

Now it cannot in fact be shown that anthropologists in general have reached a unanimous agreement on exactly what is to be included within each of these three aspects or how each aspect relates to the overt-covert distinction explained above. Some would prefer to identify the ideological dimension of culture solely and exclusively with the covert 'spiritual' realm of knowledge, ideas, beliefs, values, feelings, etc., while the technical and social aspects of a particular culture would be more or less restricted to the overt and sensible manifestations of that spiritual realm, i.e., to the outward and observable forms of patterned social behavior and to the various implements and artifacts that so clearly indicate the human race's constant transformation of its own natural environment. Others, however, would prefer to extend the overt-covert distinction to all three realms, insisting that technical knowledge, skill, and know-how as well as social feelings, cognitive awareness of social roles and functions, values and norms of social interaction and cooperation all clearly indicate that there is a definite mental or spiritual component that properly belongs both to the technical and to the social dimensions of any culture: symbolically transmitted and communicated ideas, values, and beliefs do not belong off by themselves in some separate realm or compartment but are clearly linked not only with such obvious 'mental' or 'spiritual' achievements as art, religion, philosophy, science, and history, but with tools, artifacts, social relationships, and organized institutions as well [11]. If we accept this second stance as the more correct one, this will also allow us to correlate and combine our two classificatory schemas with much greater ease, as can be seen by consulting the summary diagram on the following page

The diagram outlines a final classificatory schema, one that provides us with a structure or framework for arranging and categorizing the various different factors mentioned by anthropologists as contributing to the over-all content or composition of a particular culture. To complete the analysis of what I have termed a descriptive approach to culture on the part of anthropologists, I turn now to a consideration

CULTURE: THE SPECIFICALLY HUMAN SPHERE OF REALITY

	COVERT ASPECTS	OVERT ASPECTS
	common ideas, beliefs, norms, meanings, values, thoughts, concepts, decisions, feelings, attitudes	outward results, products, expressions, manifestations, objectifications
TECHNICAL DIMENSION	<p>common technical <u>knowledge</u> (techno-<u>logy</u>);</p> <p>practical know-how (ideas, plans, instructions, designs standards, etc.);</p> <p>knowledge about how a certain tool is to be used, about how a certain artifact is to be produced, etc.</p>	<p><u>symbols</u> that carry and communicate technical knowledge and practical know-how;</p> <p><u>tools</u>: machinery, implements, utensils, means of production, etc. whereby human beings put their technical skill and know-how into practice;</p> <p><u>artifacts</u>: the end-product or result -- the transformation of the natural environment brought about through humankind's technical knowledge and tools.</p>
SOCIAL DIMENSION	<p>common knowledge (socio-<u>logy</u>), ideas, values, attitudes, feelings, beliefs, about social behavior, interactions, and interrelationships (i.e., about all the various forms of social organization and order: personal bonds of kinship, institutional roles and functions, rules of etiquette and manners, etc.);</p> <p>knowledge about how one is to behave, cooperate, interrelate, etc.</p>	<p><u>symbols</u> that carry and communicate knowledge, ideas, feelings, values, and beliefs about social behavior, social interactions, and social relationships;</p> <p>shared patterns of learned <u>behavior</u> (1) that objectify and embody commonly held ideas, values, and beliefs concerning social organization and social order;</p> <p>(2) that include the organizing of cooperative human efforts for the recurrent acquisition of material and spiritual results or products of every kind as required to meet the vast spectrum of humankind's recurrent needs.</p>
IDEOLOGICAL DIMENSION	<p>ideo-<u>logy</u>;</p> <p>artistic, religious, scientific, ethical, historical, philosophical, and theological ideas, values and beliefs together with the feelings and emotions that they inspire.</p>	<p><u>symbols</u> that carry and communicate ideological ideas, values, and beliefs.</p>

of the characteristic properties or features which belong to all of the elements or aspects that comprise a culture. Here I shall merely list some of the more important cultural traits as summarized and exemplified from Kroeber and Kluckhohn's extensive treatment of the matter. In general, then, cultural phenomena can be described or characterized as:

1. made by human beings:

Culture . . . is the sum-total of all that man has produced. [KK: p. 125/#3]

The term culture . . . signifies anything that is man-made, whether a material object, overt behavior, symbolic behavior, or social organization. [KK: p. 127/#12]

2. communal, collective, shared:

Culture consists of habits, to be sure, but they differ from individual habits by the fact that they are shared or possessed in common by the various members of a society. [KK: p. 182/#2]

What we have in common with fellowmen whose judgments mean much to us is culture, a community of understandings, artifacts, concepts, and ethics. [KK: p. 202/#9]

3. structured or patterned into an integrated whole:

As one product of the adaptive process, the elements of a given culture tend to form a consistent and integrated whole. [KK: p. 169/#7]

A culture is a system of interrelated and interdependent habit patterns of response. [KK: p. 118/#1]

4. dynamic, ongoing, changing, adaptive:

Culture itself is not static . . . It is adaptable and modifiable in relation to physical conditions. [KK: p. 161/#6]

Culture changes; and the process of change appears to be an adaptive one, comparable to evolution in the organic realm but of a different order. [KK: p. 168/#6]

5. cumulative, gathered together into a cultural heritage or tradition:

Culture [is] the socially inherited assemblage of practices and beliefs that determines the texture of our lives. [KK: p. 89/#2]

Culture is cumulative as well as continuous; new elements are added through invention and discovery. [KK: p. 193/#8]

6. handed on, transmitted, taught by means of symbols through the process of education and training:

Culture includes everything that can be communicated from one generation to another. [KK: p. 90/#11]

It [culture] embraces all modes of thought and behavior that are handed down by communicative interaction -- i.e., by symbolic transmission -- rather than by genetic inheritance. [KK: p. 138/#5]

7. acquired or learned by means of symbols through the process of education and training:

Cultural phenomena are conceived of as including all the activities of man acquired by learning. [KK: p. 111/#1]

A culture can be thought of as the sum total of learned techniques, ideas, and activities which a group uses in the business of living. [KK: p. 112/#8] [12]

To conclude this brief survey of the various factors which comprise a culture, along with the various features which in turn characterize these factors, it might be mentioned that descriptive definitions of culture in the field of anthropology may be either of a more comprehensive type or of a more specialized type. That is to say, on the one hand, they may include many different factors and features essential to culture within a single all-embracing view that attempts to be more complete and exhaustive, or, on the other hand, they may deliberately emphasize just one particular factor or feature (or perhaps a select few) in order to focus the reader's attention solely upon its various aspects and implications [13].

B. Lonergan: Differentiation of the Cultural from the Technical and the Social within the Specifically Human Sphere of Reality

The time has come to bring Lonergan himself into the picture and to compare his own descriptive approach to culture with that of the anthropologists.

First of all we note that when he attempts to describe cultural phenomena, Lonergan, like the anthropologists, is very much concerned with the various different factors and features that properly belong to culture as such. So, for example, several of the many factors that might serve as possible components for a particular culture are articulated by Lonergan in terms of what could be called "differentiation-realm correlations" [14]. In other words, on the one hand, differentiations of consciousness arise from the different ways in which one can employ the dynamic invariant structure of conscious human intentionality, i.e., the recurrent and interconnected inner operations that constitute the basic pattern of human knowing and doing: thus the artistic, religious, scientific, philosophical, and scholarly differentiations of consciousness represent distinct actualizations and particular manifestations of this one basic pattern. On the other hand, correlative to the subjective pole defined by each such differentiation of consciousness, there is also an objective pole that consists of some particular realm of meaning: the aesthetic world of beauty and the transcendent

world of the sacred as well as the more thematized or conceptualized worlds of theory, interiority, and history. Now, according to Lonergan [15], the various differentiations of consciousness offer certain possibilities for distinct yet interrelated specializations to structurally articulate and internally partition the collective mentality that functions as the subjective side of a particular culture, while the various realms of meaning that correspond to such differentiations offer possibilities for dividing up the collective world that functions as the correlative objective side of that same culture.

Likewise, one can easily discern certain essential features (i.e., characteristic traits) that Lonergan would ascribe to cultural phenomena in general. For instance, (1) such phenomena are communal or collective in nature, i.e., they belong to and indeed are carried by the particular cultural community whose very essence they serve to define [16], and (2) they are internally structured according to relational patterns of positive and negative interaction, i.e., the various different elements that make up a particular culture may mutually interact with one another either in a concordant and complementary fashion (reciprocal mediation) or in a discordant and conflicting fashion (dialectical opposition) [17].

As regards their respective efforts to describe cultural phenomena, then, the crucial difference between Lonergan and the anthropologists lies not in the fact of their descriptive concern with cultural factors and cultural features -- which, as I have just pointed out, happens to be a point of mutual interest -- but rather in their differing opinions as to the scope or extent of the field that is to be described. Briefly, for Lonergan the technical and the social are not integral parts of the cultural sphere (as they are for most anthropologists) but are to be clearly differentiated from the cultural sphere as distinctive realms in their own right.

Thus, for example, as early as 1957 in his Notes on Existentialism, Lonergan speaks of "man as a maker of man, as technical, social, and cultural." Humans as cultural, as authoring cultural achievements and inheriting cultural traditions, are here clearly distinguished from humans as technical, as using tools to create a human environment (i.e., a totality of material products and artifacts), and from humans as social, as organizing and structuring their collective life in and through institutions of various kinds (familial, educational, economic, political, and so forth) [18].

Again in the published address entitled "Dimensions of Meaning" Lonergan distinguishes between the transformation of nature which focuses upon "the man-made artificial world" that human beings set up between themselves and the prior world of nature, and the transformation of human beings themselves that involves two distinct processes: "the evolution of social institutions" and "the development of cultures" [19].

Two later articles, "Belief: Today's Issue" and "The Absence of God in Modern Culture," clearly differentiate between the social, a "way of life . . . in which men live together in some orderly and so predictable fashion" [20], and the cultural, "the meaning we find in our way of life, the value we place upon it . . ." [21].

Finally, in the work entitled Method in Theology, published in 1972, Lonergan reaffirms the difference between social values, "such as the good of order which conditions the vital values of the whole community," and cultural values which "do not exist without the underpinning of vital and social values," but none the less rank higher by the very fact that the function of culture is to "find a meaning and value" for the social life of human beings (i.e., for their "living and operating" together) [22].

While we cannot hope to tackle all of the intricacies and fine points involved in these distinctions, the main idea I wish to put across here is simply this: Lonergan makes a basic distinction between the technical, the social, and the cultural in contrast to the all-inclusive anthropological notion of culture which involves no such distinction but simply encompasses the technical and the social within the cultural as one undifferentiated global sphere that is specifically and exclusively the collective human sphere in its totality. Therefore, while the technical notion of culture used by most anthropologists is extremely broad and far-reaching in its scope, the more philosophical notion of culture espoused and developed by Lonergan has a much narrower and more restricted range. Unlike the anthropologists, Lonergan does not simply distinguish between Nature and Culture or between the organic and the superorganic as two distinct zones of reality. There is indeed the physical realm of nature, the natural sphere that provides sense data for the natural scientists who wish to probe its secrets and unveil its laws. And in contrast, there is the specifically human sphere, which, however, is not to be simply identified with culture. For Lonergan, culture

does not embrace the entirety of the human collective world. Culture is in fact only one element within this intentional sphere or sphere of meaning. That sphere also includes a distinct technical dimension and a distinct social dimension as equally authentic and recognizable components.

And so at least as regards a descriptive approach to cultural phenomena, it is this fundamental differentiation between the technical, the social, and the cultural that sets Lonergan apart from most contemporary anthropologists. And because of Lonergan's distinctive approach to cultural phenomena, because he explicitly delineates or articulates the specifically human sphere of reality in this three-fold fashion, one who might wish to investigate Lonergan's notion of culture could write off as practically negligible the extent of his or her necessary involvement in questions which focus primarily upon human beings as technical (their transformation of their natural environment through technological achievements) and human beings as social (their structuring a common way of life for themselves through social organizations and institutions). Whereas if one wished to approach culture from a strictly anthropological point of view, then on the contrary one would be very much interested in such questions.

Or again, to locate Lonergan's notion of culture within the anthropological perspective presented above, it appears that his primary focus would definitely be upon that section of the classificatory schema [see p. 28 above] which, in accordance with anthropological usage, has been labelled the ideological dimension of culture -- particularly as regards its covert, or as Lonergan would say, its intentional side. In other words, collective, communal, or shared meanings and values as they originate within the aesthetic, religious, scientific, philosophical, and scholarly realms would seem to constitute the sum and substance of Lonergan's concern with culture.

II. Explanation

I take 'explanation' in a very broad and general sense as indicating the scientific or theoretical dimension that properly belongs to anthropological studies. An anthropologist may attempt to enumerate the various elements that make up the content of a particular culture; he or she may then attempt a more extended phenomenological description of certain cultural factors and their characteristic features. In neither case, however, can this approach to cultural phenomena be labelled

as explanatory. Such phenomena are simply taken as already there -- given data to be enumerated, recorded, classified, and described. On the other hand, an anthropologist may wish to move beyond definitions, enumerations, and classifications and ask for explanations; by so doing one enters into the realm of anthropological theory, and henceforth both one's procedures and one's results are judged to be scientific in the strict sense of the word [23].

In general, the explanatory approach taken by a scientifically conceived anthropology is concerned with two basic questions that are in fact quite closely interrelated: (1) how do different cultural systems work? and (2) how have these various cultural systems come to be as they are? Now we are not interested here in specific answers to these two basic questions -- answers given by way of full-fledged theories developed by this or that noted anthropologist. Our concern is simply with the more general theoretical orientations that supply an over-all framework or context for such theoretical inquiry, so that the data gathered by the anthropologist can be approached and questioned from a particular viewpoint or perspective. As different ways of selecting, conceptualizing, and ordering data, such general theoretical orientations may be categorized or classified in various different ways and under various different headings. As a first and most comprehensive division, let us distinguish between theoretical orientations that focus upon relations and those that focus upon origins.

A. Explanation by Relation: General Theoretical Orientations that are either (1) Diachronic (Evolutionary or Diffusionist), or (2) Synchronic (Functional or Structuralist)

In the former instance, one will be searching for explanations in terms of general laws, types, patterns, and regularities which relate various elements to one another from the viewpoint of temporal succession (diachronic studies) and/or from the viewpoint of temporal simultaneity (synchronic studies): evolutionary and diffusionist orientations emphasize the diachronic approach, while functional and structuralist orientations stress the synchronic approach. In other words, some variant of structural-functional analysis is normally to be used for synchronic studies which tend to focus mainly upon the basic question, "How do different cultural systems work?"; but an evolutionary, diffusionist, or some type of historical

approach is needed for diachronic studies that tend to focus mainly upon the equally important question, "How have these various cultural systems come to be as they are?"

General laws, types, patterns, and regularities, then, can emerge either from a genetic concern with development or from a relatively static and non-historical concern with structure and function. Explanatory theories in the field of anthropology can thus be depicted as running along two distinct yet interrelated axes: a vertical axis of simultaneous 'functional' or 'structural' correlations and integrations, and a horizontal axis of successive 'historical' correlations and integrations.

With regard to explanation by relation, however, there are also other grounds for differentiation that may be noted. For example, a structuralist approach tends to be both intrinsicist and integralistic. It focuses primarily upon the immanent or intrinsic formal intelligibility that is to be found within the ordered set of internal relations which connect various different elements together into a cultural system of some sort -- a cultural 'pattern' or 'structure'; it does not go outside the inner workings of a particular cultural system to seek any further explanatory account of that system. It also insists that no element within such a cultural system can be treated as an isolated unit for purposes of analysis or comparison. The structural whole always comes first: every cultural phenomenon must be taken in context, i.e., in terms of its relations and interconnections with other components within the integrated totality.

In contrast, evolutionary, diffusionist, and functionalist orientations admit of a more atomistic approach that would concern itself with the evolution, diffusion, or function of a single cultural element -- either in terms of one particular culture or, as is more likely to be the case, in terms of a comparative analysis of several different cultures. Likewise, these three orientations have no qualms about seeking intelligibility outside the set of internal relations that form a cultural system; in this case, an explanatory account may focus either upon the antecedents of a particular cultural factor (e.g., its relationship to a prior stage from which it evolved or a prior culture from which it was borrowed) or upon the consequences of a particular cultural factor (e.g., does it serve a useful function in meeting human biological or psychological needs?). In each case, an explanation is

sought in terms of certain extrinsic factors -- i.e., cultural or noncultural elements that to some extent at least lie outside the particular cultural system in question.

B. Explanation by Origin: General Theoretical Orientations that Propose a Subjective Source for All Cultural Phenomena either (1) within Human Unconscious Life, or (2) within Human Conscious Life

On the one hand, then, various types of relations and interconnections may become the central focal point for the theoretical concerns of the anthropologist. On the other hand, however, anthropology as a systematic field of inquiry may also begin to probe beneath the surface of general laws, types, patterns, and regularities in order to raise questions on a more fundamental level -- questions about the subjective origins both of cultural phenomena as such and of their various correlations in terms of simultaneous and successive interconnections. With Freud, Róheim, and Lévi-Strauss, for example, one may find such origins hidden within the secret workings of the human unconscious. Or, as Lonergan prefers, one may ascribe such origins to the dynamic operational structure of conscious human intentionality -- the source and well-spring of the very 'stuff' that culture is made of: human meanings and human values.

C. Final Summary and Integration: Primary and Secondary Levels of Explanation

Now, while it is undoubtedly true that when formulated in a certain way several of these general theoretical orientations definitely tend to exclude all others, this in fact need not always be the case. Structural and functional approaches are quite often linked together, and some combination of pattern, process, and utility, of structure and function as well as diffusion and development, would seem to be required if one is to achieve an explanatory account that will provide an adequate answer for both of the basic questions which challenge theoretical or scientific anthropology. Furthermore, the search for ultimate subjective origins in terms of the human person's conscious life is not necessarily incompatible with a similar search in terms of the human person's unconscious life. Finally, a concern for subjective origins in general, whether those origins be conscious or unconscious, does not automatically exclude an explanatory account in terms of evolutionary, diffusionist, functional, or structuralist relations and interconnections.

There are, then, two lines of mutual compatibility and complementarity: first, between a primary level of explanation and a secondary level of explanation -- the one focused upon origins and the other upon relations; second, amongst the various different approaches that may be found on each of these two levels -- evolution, diffusion, structure, and function on the secondary and more proximate level, the conscious and unconscious life of the human subject on the primary and more fundamental level. Through a firm grasp of such mutual compatibility and complementarity, biased and one-sided attempts at exclusion can be eliminated, different theoretical approaches can be reconciled with one another, and a more proximate level of theoretical inquiry ('relations') can be subsumed into and grounded upon a more ultimate level of theoretical inquiry ('origins').

I have tried to put together a chart, which follows, that would summarize my observations on the different uses of the explanatory approach within the field of anthropology, and at the same time situate Loneragan himself with regard to these various different orientations taken up by anthropological theory [24].

SCIENTIFIC ANTHROPOLOGY

Several compatible and complementary general theoretical orientations founded upon two compatible and complementary levels of explanation:

I. SECONDARY AND PROXIMATE LEVEL OF EXPLANATION IN TERMS OF RELATIONS

QUESTION: How are cultural phenomena related simultaneously and successively to each other and to non-cultural elements?

APPROACH: General and recurrent laws, types, patterns, and regularities grasped and formulated from four different perspectives or viewpoints that take either a diachronic or a synchronic approach to cultural phenomena:

A.) Diachronic Approach (How do cultural systems come to be what they are?): horizontal axis of successive 'historical' correlations and integrations:

- (1) Evolution: temporal relations of before and after between different successive stages of a culture or culture trait within a process of change or development that is progressive: i.e., the movement is from an earlier and more primitive stage to a later and more developed stage.
- (TYLOR &
MORGAN)

- (2) Diffusion: spatial relations of contact and exchange ('cross-fertilization')
 (GRAEBNER & SCHMIDT) between different cultures and their respective cultural traits.

B.) Synchronic Approach (How do cultural systems work?):
 vertical axis of simultaneous 'functional' or 'structural' correlations and integrations:

- (3) Function: pragmatic relations of challenge-response and means-end between cultural elements (e.g., social institutions) and non-cultural elements (e.g., the natural environment, human biological and psychological needs, etc.).
 (MALINOWSKI & STEWARD)

- (4) Structure: immanent or intrinsic contextual relations between different cultural elements which form patterns or systems (coherent, organized, and integrated totalities) at various levels within a single culture.
 (KROEBER & RADCLIFFE-BROWN)

II. PRIMARY AND ULTIMATE LEVEL OF EXPLANATION IN TERMS OF ORIGINS WITHIN THE HUMAN SUBJECT

QUESTION: What is the basic 'stuff' -- the basic ingredient -- of culture and from whence does it originate within the human person?

APPROACH: Search for the subjective source of the very 'stuff' of culture within two different dimensions of human life:

A.) Origin within the hidden workings of human unconscious life:

- (1) Psychoanalytic Approach:
 Culture as collective neurosis or group sublimation consequent upon the human person's prolonged infancy: psychic defensive systems against anxiety are the very 'stuff' that culture is made of; cultural phenomena include everything in society that inhibits impulses or permits their distorted satisfaction.
 (ROHEIM)

- (2) Structuralist Approach:
 Culture as grounded in the basic forms taken by the unconscious activity of the human mind: the actual forms and systems of social living reveal the latent infrastructures which characterize the impersonal and impulsive workings of the collective unconscious.
 (LEVI-STRAUSS)

B.) Origin within the dynamic intentional structure of human conscious life:

- (3) Critical Approach:
 The dynamic operational structure of conscious human intentionality functions as the source and wellspring of human meanings and values; such meanings and values supply the very 'stuff' that constitutes culture.

III. Conclusion

To conclude this comparative study on Lonergan and the anthropologists, I should like to make use of certain spatial images so that I might sum up my findings in the following way: in contrast to the contemporary anthropological use of the term 'culture,' Lonergan's differentiation of the cultural as something quite distinct from the technical and the social gives him, on the one hand, a much narrower notion of culture on the level of description; but, on the other hand, Lonergan's critical grounding of cultural phenomena within the structured activity of conscious human intentionality gives him a much deeper, or perhaps we might say, a more ultimate and profound notion of culture on the level of explanation. It is most especially this latter instance of divergence and dissimilarity that highlights for us the clear distinction between Lonergan as a philosopher concerned with a philosophy of culture and the anthropologist as a scientist concerned with a science of cultural phenomena or cultural anthropology.

In the preceding chart I have labelled Lonergan's explanatory approach to culture a critical one, and perhaps this calls for some clarification, which in turn will bring the present investigation to a close.

By 'critical' I do not at all mean fault-finding or criticism in the usual sense of a 'critique.' Rather, the term is used by Lonergan in a distinctively post-Kantian sense to describe the type of metaphysics that he himself has developed [25]: such a metaphysics is called 'critical' precisely because each of its various elements correlates with, is defined in terms of, and can therefore be isomorphically traced back to some element within the dynamic and invariant structure of conscious human intentionality -- i.e., the a priori structure of intentional operations and relations that (1) emerge and develop on four distinct but interrelated levels of human consciousness [26], and (2) can be 'appropriated' by the human subject precisely because they are capable of both experiential verification within the data of consciousness and systematic formulation within the realm of philosophical reflection. In this case, then, the word 'critical' means "grounded within the innate and intrinsic operational structure of human subjectivity" -- or what Lonergan sometimes calls the "subjective apriori" [27].

For Lonergan, then, a critical metaphysics is merely a corollary to or consequence of the inherent energizing

dynamism and recurrent operational pattern that define the process of human knowing; or, in other words, it is derived from the known orientation and structure of one's knowing: thus, for example, each and every reality within the universe of proportionate being is a compound of potency, form, and act because all such realities within that universe are to be known through the internal activities that occur on the cognitive levels of experience, understanding, and judgment.

Now, I am using the word 'critical' here in a similar though somewhat extended fashion: from the explanatory viewpoint that would form an essential part of any philosophy of culture put together along Lonerganian lines, all cultural phenomena would likewise reach back to and find their ultimate ground, source, foundation, and matrix -- their very roots and rudiments, if you will -- within that very same dynamic and invariant structure of conscious human intentionality. Once again, this operational structure is quite rightly called a priori precisely in the sense of being the way in which the human mind invariably works as that mind is presupposed by any particular instance of human knowing or human doing. And it is precisely this subjective a priori or a priori of the human subject that constitutes the sole origin of all the intentional contents -- i.e., all the meanings and values common to or shared by the members of a particular cultural community -- which for Lonergan provide the "intrinsic components" [28] of any culture and so specify the sum and substance of any culture -- i.e., its very 'essence' as a culture. In this sense, then, I feel it is fitting that, in contrast to anthropological perspectives and procedures, Lonergan's explanatory approach to cultural phenomena in terms of their origin within the human subject should be called a critical approach.

NOTES

[1] All of my references will be to this edition which, advertising to the last names of its two authors, will hereafter be cited as KK. In order to avoid a tedious and distracting overabundance of lengthy notes, most of my references to KK will be cited, either in the text itself or in the endnotes, by placing after each quotation a parenthesis containing the abbreviation KK along with the relevant page number and, when available, the specific number assigned to the quotation on that page.

[2] E. B. Tylor, Primitive Culture [London: John Murray Publishers, 1871].

[3] For further instances of this aspect of inclusivity as a distinctive quality that is clearly characteristic of most descriptive definitions of culture advocated and articulated by anthropologists, the reader is advised to consult the

following passages: KK: pp. 13-14; p. 50; p. 84/#17; p. 125/#1a; p. 139/#1; p. 139/#2; p. 175/#19; p. 191/#1; p. 191/#2; p. 289; p. 356.

[4] A. L. Kroeber and Clyde Kluckhohn, Culture: A Critical Review of Concepts and Definitions [NY: Random House, 1963], p. 70.

[5] Ibid., p. 51. [6] Ibid., p. 12.

[7] Barton M. Schwartz and Robert H. Ewald, Culture and Society: An Introduction to Cultural Anthropology [NY: The Ronald Press Company, 1968], pp. 52-52.

[8] KK include further material relevant to this basic distinction on the following pages: 66, 103, 136, 182/#3, 194/#9, 357.

[9] David Kaplan, "The Superorganic: Science or Metaphysics," American Anthropologist, LXVII [1965]: 960.

[10] For several examples of this classificatory trichotomy or threefold segmentation of culture, see KK, pp. 184-190.

[11] In Lonergan's terminology, all three realms involves human acts of meaning.

[12] Other quotations from KK that illustrate these cultural traits include the following (the numbers from one to seven correspond to each of the seven features in turn):

1. p. 175/#19; 2. p. 165/#3; p. 211/#20; 3. p. 118/#3; p. 119/#6; p. 119/#7; 4. p. 176/#20; p. 192/#6; p. 193/#7; 5. p. 276; p. 91/#13; p. 90/#6; 6. p. 89/#5; p. 91/#14; p. 164/#12a; p. 179; p. 192/#5; p. 193/#8; 7. p. 90/#10; p. 91/#18; p. 111/#2; p. 112/#4; p. 112/#5; p. 210/#19.

[13] The passages quoted in connection with each of the various cultural features readily provide us with excellent examples of a more specialized approach. We might supplement these, however, with references to a few illustrations which focus instead on the various different factors that contribute to a culture's make-up or content:

1. behavior and artifacts (KK, p. 159/#3; p. 184/#4);
2. tools and symbols (KK, p. 192/#6; p. 137/#1);
3. ideas, norms, beliefs, and sentiments (KK, p. 141/#3; p. 101/#6; p. 131/#8; p. 191/#3; p. 166/#4).

As for descriptive definitions of culture that are more comprehensive in scope, the following may be noted as rather obvious examples of this type: KK, pp. 118/#4; p. 185/#7; p. 357.

[14] B. Lonergan, Method in Theology [NY: Herder and Herder, 1972], pp. 13, 81-85, 139, 258-266, 271-281, 302-305.

[15] Ibid., pp. 85-99, 305-319. See also Lonergan's essay, "The Absence of God in Modern Culture," in The Presence and Absence of God, ed. C. F. Mooney, S.J. [NY: Fordham U. Press, 1969], pp. 165-166.

[16] For Lonergan there is a reciprocal relationship between any cultural community and the set of meanings and values held in common by the members of that community. On the one hand, in a compositive sense, community is constituted by culture: the common or shared meanings and values that define a particular culture function as the intrinsic components or formal constituents which make up or compose the very sum and substance of a particular cultural community; they provide the very 'stuff' out of which the ongoing intentional essence of such a community is formed and fashioned. On the other hand, in a constructive sense, culture is constituted by community: the set of meanings and values that comprise a

particular culture are commonly selected and accepted, decided upon, agreed upon, and adhered to by the members of a cultural community in the very act of collectively constituting themselves as this particular community; cultural communities constitute themselves by defining their identity and determining their destiny in terms of the cultural heritage they have put together for themselves. See Method in Theology, pp. 79, 298, 356-357, 363. The reader might also wish to consult two other works by Lonergan: (1) "Existenz and Aggiornamento," in Collection, ed. F. E. Crowe, S.J. [NY: Herder and Herder, 1967], p. 244, and (2) The Subject [Milwaukee: Marquette U. Press, 1968], p. 30.

[17] In other words, the various specialized and differentiated horizons ("co-present developments") included within any one particular culture may interact in a reciprocal fashion either through the positive modifications brought about by way of mediation or through the more negative yet at times challenging clash of viewpoints brought about by dialectical opposition. Horizons may complement or contradict one another. In either case, they exemplify what we would wish to call relation by mutual interaction. See Method in Theology, pp. 236-237, 273, 344. Tape recordings of lectures delivered by Lonergan on "History" and on "Method in Theology" at Regis College, Toronto, during the summer of 1962, provide valuable material on Lonergan's conception of mediation.

[18] B. Lonergan, Notes on Existentialism (mimeographed notes distributed by the author for his course during the summer session at Boston College, July, 1957), p. 30.

[19] "Dimensions of Meaning," in Collection, p. 254.

[20] "The Absence of God in Modern Culture," p. 165.

[21] "Belief: Today's Issue" (a paper prepared for the Pax Romana Symposium on Faith, Pittsburgh, March 16, 1968), p. 5. This address was also published as "Belief Today," in Schema XIII, Vol. I [February, 1970], 9-15.

[22] Method in Theology, pp. 31-32. In this same work, Lonergan indicates in a somewhat more extended fashion that the function of culture is ". . . to discover, express, validate, criticize, correct, develop, improve such meaning and value" (p. 32).

[23] In the course of some basic research for this section on explanation in the field of anthropology, I found several books, articles, and encyclopedia entries extremely helpful, including the following:

BOOKS: David Bidney, Theoretical Anthropology [NY: Schocken Books, 1967]. Elvin J. Hatch, Theories of Man and Culture [NY: Columbia U. Press, 1973]. David Kaplan and Robert Manners, Culture Theory [Englewood Cliffs, NJ: Prentice-Hall, 1972]. Edmund Leach, Claude Levi-Strauss [NY: The Viking Press, 1970]. Robert H. Lowie, The History of Ethnological Theory [NY: Farrar and Rinehart, Inc., 1937]. Bronislaw Malinowski, A Scientific Theory of Culture and Other Essays [London: Oxford U. Press, 1960].

ARTICLES: Peter Caws, "What is Structuralism?" in Claude Levi-Strauss: The Anthropologist as Hero, eds. E. Nelson Hayes and Tanya Hayes [Cambridge, Mass.: MIT Press, 1970]. Ambrose McNicholl, O.P., "Structuralism," in the Irish Theological Quarterly, XXXV [June and October, 1968]: 233-267, 343-383. Idus L. Murphree, "The Evolutionary Anthropologists: The Progress of Mankind," in the Proceedings of the American Philosophical Society, Vol. 105, No. 3 [1961]: 266-300. Geza Roheim, "The Psychoanalytic Interpretation of Culture," in Man and His Culture, ed., Warner Muensterberger [NY: Taplinger Publ., 1970]. Harold W. Schelffler, "Structuralism in Anthropology," in Structuralism, ed. J. Ehrmann [NY: Doubleday, 1970].

ENCYCLOPEDIA ENTRIES (all from the International Encyclopedia of the Social Sciences, ed. D. L. Sills [NY: Macmillan and The Free Press, 1968]: Hermann Baumann, "Braebner, Fritz" [VI, 240-241]. Ralph Beals, "Kroeber, Alfred L." [VIII, 454-463]. Harold E. Driver, "Ethnology" [V, 178-186]. Joseph P. Greenberg, "Culture History" [VI, 448-455]. Robert Heine-Geldern, "Cultural Diffusion" [IV, 169-173]. Joseph Henninger, "Schmidt, Wilhelm" [XIV, 56-57]. Alexander Lesser, "Boas, Franz" [II, 99-110]. Marion Levi, "Structural-Functional Analysis" [VI, 21-29]. Donald N. Levine, "Cultural Integration" [VII, 372-380]. David G. Mandelbaum, "Cultural Anthropology" [I, 313-319]. Margaret Mead, "Benedict, Ruth" [II, 48-52]. Rhoda Metraux, "Malinowski, Bronislaw" [IX, 541-549]. Warner Muensterberger, "Roheim, Geza" [XIII, 543-546]. W. E. H. Stan-ner, "Radcliffe-Brown, A. R." [XIII, 285-290]. Goerge W. Stock-ing, "Tylor, Edward Burnett" [XVI, 170-177]. Leslie A. White, "Morgan, Lewis Henry" [X, 496-498].

[24] The surnames given in capital letters indicate represen-
tative figures for each of the different general orientations.
Full references can be found in the preceding note.

[25] See Lonergan's most famous work, Insight: A Study of Human Understanding [London: Longmans, Green and Co., 1957],
Chs. XIV-XVI on metaphysics.

[26] On the different levels of human consciousness (empirical,
intellectual, rational, and existential), see the following
works by Lonergan as previously cited: Insight, pp. 272-275,
322-325, 613-615, 623, 704; "Existenz and Aggiornamento,"
p. 241; Method in Theology, pp. 9, 104, 133, 141-143, 232,
349; The Subject, pp. 20-23. The reader may also wish to con-
sult another article by Lonergan entitled "Cognitional Struc-
ture," in Collection, p. 227.

[27] Lonergan, Method in Theology, pp. 103, 263, 292. See
also P. McShane, "An Interview with Fr. Bernard Lonergan,
S.J.," Clergy Review, LVI [June, 1971]; 412-431.

[28] Lonergan, Method in Theology, p. 78.

LEARNING FROM LONERGAN AT ELEVEN *

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1. Untapped Motivation

The financial success of Rubik's Cube is only one of many proofs of the astounding motivation young children have for learning, and the amount of intellectual energy they are prepared to invest in solving a puzzle. It leads us to ask how successful our teachers have been in harnessing that motivation in education. My pleasant task this evening is to announce to you that the way for this is now wide open.

2. Simplifying a Difficult Innovation

Bernard Lonergan, at the beginning of his book Insight [1], judged it advisable to make an apology: he was starting with an example that some readers might consider too simple, that of Archimedes solving the problem of testing a goldsmith's honesty. Aristotle, on the other hand, shows no such qualms in commencing his Metaphysics [2] with the fairly obvious claim that "All men naturally desire to know." My suggestion is that this difference is symptomatic of a difference between the cultures to which these books were addressed, but a difference which can be overcome -- with great benefit to education, to philosophy and to religion.

The excuse that Lonergan offers for dealing with "the simple things that everyone can understand" [3], is the advice of Descartes. I wonder whether, as his book progressed, he still had Descartes in mind, though in a different sort of way -- as a genius who gave us in an extremely complex and difficult form a new discovery that could well have been expressed very much more simply. At any rate, the instance is a significant one. I put it before you as my own excuse for venturing to do what some aficionados of Lonergan may look on with horror as the casting of pearls before children.

Our debt to Descartes, of course, is not just in philosophy. Millions of people have learnt cartesian geometry at a relatively early age without more than a passing glance to Descartes himself, and millions more omit his name to communicate what they call graphs.

*This paper was presented at Toronto in November, 1988, at the Seventh Lonergan Colloquium. I am grateful to Fr. Frederick Crowe, S.J., for his invitation and support.

Descartes, in expounding analytical geometry for the first time, made it look rather difficult by not starting with right-angled coordinates, by omitting the y-axis, and by giving, as almost his first example, the solution of a previously unsolved geometrical problem whose very statement as a problem takes some sixteen lines of text [4]. Unfortunately most readers of Lonergan would consider him more at home with this Descartes than with the one whose exhortation to deal with simple things he cites. Still the impact of Lonergan's Insight could, one day, be just as universal as the use of graphs.

3. Lonergan's Demand: Exercises

The key to philosophy that Lonergan offers us is self-appropriation, which, at times, he also calls self-knowledge. At the end of the first chapter of Insight he reminds us that the content of the chapter is not what is important, but rather our experience of our own mind at work while discovering that content [5]. That wealth and range of content is required when our learning is mediated by a book. But, more basically, what counts is the exercise of our mental powers, and that exercise is what is central to his instructions:

the only way to achieve [familiarity with what is meant by insight] is, it seems, to attend very closely to a series of instances all of which are rather remarkable for their banality. [6]

To experience an insight requires, as he says later:

close attention to instances of one's own understanding and, equally, one's failing to understand, and . . . the repeated use of personal experiments in which, at first, one is genuinely puzzled and then catches on. [7]

The reader of Method in Theology is told that he

will have to evoke the relevant operations in his own consciousness. He will have to discover in his own experience the dynamic relationships leading from one operation to the next. Otherwise he will find not merely this chapter by the whole book about as illuminating as a blind man find a lecture on color. [8]

Indeed, without those exercises the book would be empty:

Insight may be described as a set of exercises in which, it is hoped, one attains self-appropriation. [9]

4. Exercises in Tertiary Teaching

But what exercises should we use? The book Insight is too difficult for the beginner in philosophy; not all have the drive or the facilities of Archimedes; nor can they afford the years of constant struggling with a single problem that is so frequently mentioned by those many other most impressive discoverers to whom Lonergan refers us [10].

First and foremost, the purpose of the exercises is to provide data in which can be gained an insight into one's own mind; evidence to support a justified affirmation that I am an experiencer who is intelligent and reasonable. The exercises must give us the "concrete psychological fact" to which "every dispute in the field of metaphysical speculation" can be reduced [11]. Empirical method must be applied "to the data of consciousness no less than to the data of sense" [12]. I have to find the relevant data in the consciousness in my own mind at work.

For twenty years or so during which I have been teaching philosophy I have considered it essential to give my students an opportunity to grapple with a set of exercises in class, or at least between classes, so that our attention to, and description of, an insight is based upon a genuinely fresh sample. For this purpose I have chosen simple puzzles which are not all beyond the weakest of the students, while one or two are hard enough to tease even the more intelligent. Over the years I have accumulated further samples, brought to me by former students who are delighted both to contribute to my teaching resources, and to know that I will suffer a few hours or days of frustration similar to that which I forced on them.

5. Beneath the Dignity of Tertiary Students?

These puzzles have served their purpose well, but a few years ago one of my tertiary students complained about them. "These are kid's stuff," he said, "not worthy of a philosophy student aged 23." Most of my students, however, continue to enjoy them, but nevertheless my memory went back to a short car journey I had made years before with three of my nephews and nieces aged about ten, who had plied me with riddles which they had enjoyed immensely, but which were well beyond my capacity to solve. A new project occurred to me. If riddles and puzzles were kid's stuff, should not the kids be allowed to reap the philosophical riches they contain? "Render to Caesar the things that are Caesar's" and to children the things that are children's.

6. A Well-Known Interest

Further inquiries among teachers brought forth the information that children at about the ages of ten to twelve have an insatiable appetite for puzzles, riddles and jokes, though none could tell me how this was made use of in classes, unless indirectly as a reward or as entertainment. The books on

education that I consulted did not mention even the phenomenon [13]. While discovery was praised as an educational strategy, its value seemed to be confined to a means of gaining serious content rather than a means of securing intrinsic motivation [14], and the achievement envisaged seemed to be rather rare.

It seemed that I had to try out the possibility for myself.

7. The Teachers and the Classes

Some time later a former student invited me to the parish at which he was curate. There were 400 students in its parish school, with each class divided in two, so that Grade 6 (the top class in that primary school) had two streams of 31 and 32 students respectively. I outlined my plans at a meeting with the Priests, the Principal, the Religious Education Co-ordinator, the two class teachers and their support teacher (who covered other grades as well). They showed a polite interest until Fr. Farrugia asked me how I would actually use a joke in class. I told a very simple joke, which amused them, and within a few minutes we were all involved in a vigorous discussion of insight governing formulations, of modern theology, development of doctrine, and the fruits of the Holy Spirit. We were off to a good start, and from then on I had strong support from the school staff [15].

I arranged to visit the school for an hour each Tuesday and Wednesday, taking a 30 minute class with the Gold stream and then another with the Brown stream on the Tuesday, doing the same, only in the reverse order, on the Wednesday. After 20 of these days I met with the staff group for an evaluation of the experiment, and it ended in the sixteenth week, so that I had 31 classes in all with each of the streams.

The class teacher, Jenine or Chris, sat in the class during my lesson, keeping an ear on what was going on, while correcting exercises. Only rarely did they intervene, as when I tried to dictate a sentence without writing it on the blackboard, or when my writing turned out to be in an old-fashioned script so that I had to turn to block letters.

As my hour was the last in the morning I was normally able to stay for lunch, a useful opportunity to consult the class teachers and also meet the other teachers in the school. There were a couple of social meetings during the semester at which I was able to meet the parents, very few of whom had been born in Australia, having migrated there, in many cases with their own parents, from Italy, Malta, Lebanon, Holland, or the like.

8. Instructions

Though my aim was quite explicitly to teach the same philosophy as I was teaching in the theological colleges, I excluded all historical matter, all use of written texts, and, as far as possible, all technical terms, even those of Lonergan. Occasionally, where a special term was needed, I used the name of a student who had made the appropriate move, so that a question requiring a Yes or No answer became a Linda-question and a question for understanding a Gerry-question.

The students appreciated right from the start the danger that any of them could spoil things for the others by blurting out the solution of one of the puzzles, and in general they avoided this temptation. Indeed, those who had just succeeded in solving a puzzle displayed remarkable skill in giving hints to their companions, or in presenting, even in public, just enough evidence for me to judge whether they had a genuine insight without disclosing enough to enlighten the others.

An occasional repetition of my initial warning not to spoil the puzzle for others was quite sufficient to preserve this atmosphere. As for the public sharing of hints, I myself chose a suitable time for commencing this, normally after four or five students had discovered the solution, so that the satisfaction of making such a positive contribution to our enterprise would not be confined to one student, and two or three could share in being the focus of present attention.

An instruction that did, on the other hand, have to be repeated continuously, even within the context of a single puzzle, was the need, not only to attend to the data, but to adapt the data [16], add to them, play with them, seek other similar, or simpler, cases, take a new viewpoint, or attend by listening or feeling, perhaps, as well as looking. Some children, after finding success in such an active approach, may eventually develop it as a habit. Whether this can ever be done with adults, I am not yet sure. My experience, at any rate, of adult audiences, suggests a great unwillingness to ever use pen and paper as a means to solving a problem, even in the face of the most encouraging exhortation.

The central point in our whole exercise, that had to be insisted upon above all, was the key to the whole process, attending to oneself and one's operations as soon as possible after these had occurred. This is what Lonergan calls 'interiority' [17]. So, as soon as I was satisfied that someone had solved a puzzle, or appreciated a joke, I had to direct attention in this way, asking "What are you?" and "What can

you do?" There seemed to be no great loss in making suggestions at this point, probably because their experience was able so emphatically to confirm the suggestion. But the students' own descriptions were, of course, preferred, and often needed little prompting. The same turn to oneself as operating was required with each of our cognitional activities, and not just with the solving of puzzles. In these areas they were rather more used to attending to their activities but even here they were still helped by the exercises. Right from the first day we found a simple technique for moving in the realm of interiority by seeking partial definitions of ourselves, in answer to the question "What am I?" We retained these definitions and gradually added to them until a fairly full description of a human being had been reached. I have to admit with some embarrassment that even that lowest question which is the last resort of the television interviewer had a definite place here: "How do you feel?" While the frustration of seeking an insight in vain was easy to recall, the joy and power and exhilaration of success were often passed by unmentioned -- even though these had been their main motivation in devoting themselves to the otherwise thankless task of seeking the solution. Once the appropriate concept had occurred to them, however, they were able to say with conviction: "I am something that enjoys insights."

I mentioned just now the danger of someone stating bluntly the full answer to one of the puzzles, and so depriving others of the experience of arriving at it for themselves. There was, on the other hand, no such danger of loss in the switch to the interior mode. Any single student who had just had an insight could be an Archimedes to the others. He could give an account which would help others to recognize how it feels to be a discoverer -- in the way that Lonergan's five points based on Archimedes were intended to help the rest of us -- without in any way lessening the joy that others would experience later on in giving a similar account of their own insights when the light dawned in each of them.

Their accounts were often so accurate, so sincere, so enthusiastic, that a lesson on the nature of insight that could be of great benefit to the whole class could be drawn immediately from these few students. Such a lesson could be recalled with profit by any who solved the problem at home or on a later day.

These accounts of a student's recent experience of insight were the very key to the teaching process, as were, at appropriate times, accounts based on some recent striking experience of any of the other cognitional activities within Lonergan's structure of knowing.

Such accounts should concern not just the conditions favoring the occurrence of the insight (or other cognitional activity), but the powers flowing from it, and the contrast between the experience just before and soon after the event itself.

The keenness of the preceding drive to solve the puzzle, the unexpectedness of the solution, its transcendence of exterior conditions though focused quite precisely on the concrete presentation of the problem [18], were some of the interior data that had to be experienced and discovered in the students themselves, and named or recognized. There was also the new feeling of power: an ability to state the solution in ordinary words, an ability to formulate the solution in a variety of ways, an ability to select aspects of the solution that could be expressed as hints, the ease in retaining this ability [19] and utilizing it in a wide variety of ways and circumstances.

That list, however, provided at the beginning of the book, should not be considered anything like exhaustive. After all, Insight was written "from a moving viewpoint" [20], so other aspects of interiority remain to be discovered in later pages of the book. And those aspects of the knower or doer, we must remember, not the contents treated, are its main message to us.

Such lessons as the timelessness of insight and the explanation of knowing as identity [21] rather than as reproduction have to find their ground in each student's live experience of insight. And the properties of inquiry, too, such as its unlimited openness, have to be discovered or verified in the same way. So, too, the definitiveness of the unconditioned, incredible to thinkers who do not attend to their own conscious experience, by incontrovertible, and astounding, and immeasurably precious, to someone who has just found himself under a genuine need to make one affirmation, through a genuine 'Yes' or 'No'.

9. The Extrinsic Teaching Material

I have already made it clear that the main material presented directly to the children consisted of simple puzzles

for them to work on, and riddles and jokes. But other comparable material was required as well. Projects for invention are also aimed at insight, and may be more suited to those with practical minds. They must be asked, too, to formulate their solutions, and to vary such formulations, to ask a wide range of questions and then to reflect on, and sort into categories, the questions they have just asked. At times such requests need not be stated explicitly, as ways can be found of providing cues that lead into such activities.

Simple factual questions within the range of their own familiarity can be put to them, eliciting a firm 'yes' or 'no', whose source can then be investigated. For instance, Is there a carpet in this room? Are we in Melbourne? Are we in Sydney? Have Collingwood ever won the grand final of the Victorian Football League?

Concrete illusions can be put before the class. An attempt to show the traditional stick bent in water led to the much more striking case of a sudden break in, and varied displacement of, a vertical ruler at the surface of water in a cylindrical plastic kitchen container.

For the switch to interiority the main questions that I put before them, at the appropriate times, that is, when I was reasonably sure that the minds of a few, at least, of the students were already active in the intended mode, were: What am I? What can I do? How do I feel? How is this sort of activity related to (one of the other sorts of activity that we have already identified)? Can I discover some rules for ensuring that this particular activity is being done properly [22]?

10. What I Discovered about Readiness

As a result of this teaching experience I have established the following points to my own satisfaction, and I am convinced that others who follow Lonergan can do the same.

1. Children at the age of eleven have not reached self-appropriation with regard to understanding, or wonder, or judgment, but can easily be taught to do so.

2. They have, however, some quite definite self-knowledge with regard to responsibility, and this could be developed, and integrated with knowledge of themselves as knowers. Due to the limited time available, however, I did not work in this area.

3. They were very open to, and appreciative of, an approach to the fruit of the Holy Spirit [23] through interiority.

As they were being prepared for Confirmation, I allowed myself one day on this after we had discussed the notion of spirit as found in themselves as human beings.

4. They have an insatiable appetite for puzzles. They are proud of what ability they have to solve them, and they can learn about the nature of spirit and the characteristics of their own spiritual powers by reflection on fresh instances of such activity.

5. Jokes, or riddles with answers, can serve the same purpose, and are very useful for teaching purposes, especially as directed to the whole class. But puzzles should not be neglected, as their solution is a more personal triumph, and has a greater impact, and, especially when it has required a week or two of effort, provides strong evidence for the difference between understanding and not understanding, and for the unavailability of insight to direct action by the will or to unenriched sensation.

6. The simplest jokes suffice for these purposes. Those found in books of jokes for children are quite satisfactory. Dead jokes, however, must be strictly excluded, as much of the value of the exercises is destroyed if hope of gaining a genuine intellectual achievement is undermined. By dead jokes I mean those whose only point is that there is no point. If they do come up, some lessons regarding inverse insights can, of course, be drawn, but a strong assurance should be given that each puzzle or riddle set by the teacher has a genuine insightful solution.

7. The time available for drawing full philosophical profit from a puzzle is about ten minutes. The end of this is signalled when one of those called upon, instead of continuing with suggestions or questions regarding that issue, comes out with "Another puzzle please." If the point being made when this limit is reached needs to be completed or reinforced, a new joke can be a way of making a fresh start with less waste of time.

8. After a few months, a puzzle may occasionally be set whose content is not merely recreational. For instance, puzzles about our souls, their relationship to our bodies, about angels, or God. Students can, when well prepared, find serious depths in these. Of course, they themselves may be the ones to raise them. In this case, it is generally wise to deal with the issue immediately, even if a fuller treatment has to be postponed.

9. One example of a philosophical question that the children can raise in the appropriate context is the relation of the answer, 'Maybe' to the answers, 'Yes' and 'No'. Another, is the question "Who caused God?" This question did not occur to John Stuart Mill until put to him by his father, nor to Bertrand Russell until, about the age of 18, he read it in Mill [24]. One of these eleven-year-olds raised it gingerly in class, and it was clear that three or four others had previously thought of it by themselves, and had treated it quite seriously. It is a point that has to be faced clearly by any theist, and those who have raised the question for themselves are in a position to pursue it with more vigor than did either Mill or Russell, and to master it with lasting profit.

10. It would probably have been possible to formulate puzzles based directly on their current school-work. As I was not familiar with this material I made no attempts at this. Though I had given occasional lectures in the upper forms of secondary school in recent years, it was 35 years since I had taken regular classes in one, and I had never taught in a primary school. No doubt those who have done so could find suitable material where insights are important, and turn occasionally to the interior mode while dealing with this. For the sort of mathematics we used to do thirty years ago almost any page of Westaway's wonderful book Craftsmanship in the Teaching of Elementary Mathematics [25] has appropriate suggestions. For a higher level, George Polya has the same healthy and exciting orientation in his Mathematical Discovery [26].

11. While we are talking about teachers we can report how the students can appreciate very well how the great joy that a teacher has in communicating his understanding is not due to his having learnt the idea concerned from the student but to his own active experience of that idea itself in conjunction with his success in communicating it.

12. This joy in the content of the insight is accompanied by another type of joy in his or her own spiritual activity, the joy of being a giver, and the joy of that deep personal union that is possible in spiritual events. The students were thus prepared to realize that if they ever feel what is often called "love at first sight," it may well be interpreted more correctly as something that they have already experienced in this class -- namely, love at first insight.

13. Right from the start the students recognized the value of personal achievement in solving a problem, and were ready to respect the right of others not to be deprived of the opportunity for such achievement. This value overrode that of proving before the whole class their own priority of achievement.

14. When called upon, most of those who had genuinely reached an insight were able to indicate clues or evidence that would be helpful to others in making the same discovery. Thus they had a natural ability to become teachers. There would have been an opportunity to go on and make this more explicit.

11. The Philosophical Content

Regarding the philosophical content that we reached through this work at self-appropriation, I found that these students at the age of eleven were able to appreciate, and savor, the following topics, which I give now first of all in standard philosophical form rather than in the expressions I used with the children. I will follow this with a list of the same points in Lonergan's terminology, along with an indication of the way I formulated each of them for the children. Later on I will recite in full the exact set of revision notes that I proposed for them to memorize. Among the topics were:

(a) The nature of consciousness. (b) The agent intellect, or intellectus agens. (c) The real distinction between essence and existence. (d) Substantial form and prime matter. (e) A solution to the critical problem. (f) The basic a priori. (g) The notion of being. (h) The analogy of being. (i) The contingency argument for the existence of God. (j) The notion of an eternal God. (k) Reconciliation of God's providence and human freedom.

(l) Though I made only a brief exploration in the following area, it was enough to give me hope that within a few more months these students would have been able to reconstruct the basic elements of a number of the classical schools of philosophy, in a way that would have enabled them to recognize these in future years when they were capable of reading the original texts.

12. Restatements

Let me repeat each of these in Lonergan's terminology, and then in a way which children can appreciate:

a. Consciousness as experiential data [27], with merely experiential objectivity [28], as a basis for generalized empirical method [29].

I can know myself and what I can do only after I have felt myself doing it, and I can do this only indirectly -- by attending to something other than myself. By looking at something green I see green, but I also feel seeing and a seer. By asking what green is I may come to know something about light and colors, but I also gain a feeling of inquiry and of an inquirer.

b. Inquiry [30]; the drive behind every question -- and every answer.

I am a wonderer, and my main drive to knowledge is in wondering. All the knowledge that I reach is a fulfilment of wonder and so is wonderful.

c. The distinction between essence and existence, based on the distinctions between the three levels of the structure of knowing [31], and more specifically, the distinction between understanding and judging, between what is intelligible in itself and what is intelligible only in another [32].

I can sometimes responsibly say 'Yes', and this is equivalent to "This is so," and an answer to "Is that so?" Such an answer, and what I reach through it, is different from the intelligibility I reach through an insight, which has to be expressed in a sentence or a word, such as is presupposed by, by complemented by, a 'Yes'.

d. Things, with their central forms and central potency [33].

Each dog is a single individual and makes sense as a set of intelligible parts which are intelligently related to each other, and which are involved in a large number of ways of interacting among themselves, which also make sense in the life of this dog.

A willow tree is a similar single individual, and yet it can be changed into many distinct willow trees by taking cuttings from its branches and sticking them in the ground.

e. Critical realism [34].

I have been tricked by illusions, and realized that they are not reality. I avoid illusions by asking a wide range of intelligent questions and reaching all the answers that are relevant to the issue. And this leads to the very meaning of what we have always referred to as reality -- namely, that which is to be reached by intelligent grasp and reasonable affirmation.

And through my wonder I am immediately in contact with that reality, and indeed with the whole of being, even before such grasp and affirmation. All that remains to be done is to discover and formulate distinctions within this realm of being.

f. The basic a priori, like the agent intellect, is what we experience as wonder or inquiry [35].

While I get knowledge by seeing and hearing and touching, etc., the most important contribution that my mind makes to knowledge is in wondering. This drives me to look, and listen, and feel, and to ask why and whether, and will I.

g. The objective of the pure desire to know [36].

I communicate frequently and successfully through the words 'is', 'am', 'are', 'was', 'were' and 'be'; and what I mean in using each of them is summed up in the word 'being'. The way that I use these words shows that I reach being as the answer to intelligent questions, that is, as the goal of wonder.

h. The notion of being penetrates every other cognitional content [37].

Everything I learn is different from everything else, but everything I learn and everything about it is the goal of my wondering, so there is something very much the same about all things. My wonder is absolutely open to all questions, so it directs me to the very idea of being, which is a grasp of everything about everything.

i. An explanation that needs no further explanation [38].

All the things I see need some sort of explanation, but none of them can be explained satisfactorily unless eventually through something that needs no further explanation at all, precisely because it understands itself fully, as well as everything else.

j. The timelessness of insight, and therefore of an insight into insight [39].

Every insight comes suddenly and is rich and exciting. It can be relished instantaneously, and so is not intrinsically dependent on time. An insight that understands absolutely everything, including itself, must be enormously rich and exciting and in no need at all of being spread out in time. You and I find our life and enjoyment in a time that we call 'now'. But, for us, one 'now' is separated from another. An insight into insight is not subject to this limitation. It can have all its 'nows' at once.

k. God's grasp of all possible worlds: his choice of the actual world; his application of each agent to its action, so that he cooperates in the production of everything that is; his permission of basic sin, which is the failure, due to the free choice of a creature, of an intelligibility that might have been if that creature had made a more positive and intelligent choice [40].

If I understand myself fully and everything about everything in the light of that insight, I would be able to see all possibilities and choose to actuate some of them. One such possibility would be something that would be independent of me to the extent of being able to choose its own destiny, which it would reach by collaborating with the help I would offer it, or sometimes choosing to be silly enough not to join in such collaboration.

1. I know, from my own experience of acting in these different ways, just what contribution to knowing is made by each of my cognitional activities. So I can indicate the weaknesses that there would be in a philosophy that neglected any one of these and failed to include it in its account of knowledge. Then I could guess the adjustments, or additions, that a philosopher with such a view might make, in order to try to account for the data that he cannot avoid having in performing the type of activity that his philosophy has omitted [41].

13. Teachers Can Learn and Enjoy All This

One unexpected bonus from this experiment was the personal interest many teachers showed in learning some philosophy themselves in a similar way. Though no opportunity for an extended course offered itself, a number of seminars of an hour and a half to two hours were arranged with different groups of teachers, and most of them expressed delight at what they themselves gained from the seminar. Though they would, of course, have required much more extensive training before they could teach a similar course, they could see the possibility of their doing so, and could appreciate the value it would have for their own students.

14. Opportunities and Applications

If extended and developed, this method of teaching could help ordinary children at about the age of eleven to gain one of the great benefits of a philosophical education -- a well-based orientation to the most basic issues of life.

They would then be far more open than at present to a theological education and the grounding that that can give in religion.

What they learn in this way about knowledge and about learning itself could help them to seek and grasp the essentials in all their further education.

The method would have possibilities far beyond the primary school, indeed beyond schools of any sort. Those who work among disadvantaged classes, such as the Australian aboriginal people, the poor in the third world, and those in occupied countries, often remark on their sense of humor and the pleasure they take in inventing and relating jokes. We can see now an explanation for this: such activities are an exercise of their human spirit and so help to support their self-esteem in face of their material destitution. And the jokes themselves could be a starting point for a direct and powerful education.

A chaplain at a hospice for the dying recently told me that he regularly approaches his people with a simple joke, and he agreed that the brightness this brings into their lives could be connected with a recognition of their spiritual worth as they exercise a truly human power.

15. Revision Notes

When I expressed a desire to help the children retain what they had learnt from me, the teachers ensured me that memory work would not be possible, but then Chris added, "They do, of course, enjoy learning songs." Here, then, are the lyrics [42] of my revision notes:

I'm a wonderful wonderer, wondering about
 All I see and I hear and I feel.
 My wondering brings me some moments of light,
 When an insight dawns fresh in my mind.
 With an insight I'm ready to talk and explain
 And apply and explore out beyond.
 But some judging is needed before I assent,
 When the relevant questions are closed.
 (Until I've done that, "I think" or "Maybe"
 Is all I'm entitled to claim.)
 When I've covered those questions I rightly say 'Yes',
 And it's then that I finally know.
 I'm in touch with reality, being, fact, truth,
 Through my earliest "Is it?" and "What?"
 It is thus that I spell out the wonderful world,
 Having skirted illusions and shams.
 My body's spread out, by my spirit unites,
 It ties things together, it plans.
 I decide at an instant with spiritual power,
 But fill in my designs over days.

I reach out to the edges of space and of time,
 Though my knowledge of them's all in me.
 Still it's rich and it's fun, and exciting, and strong,
 All the more that its 'now' needs no 'then'.

When I know myself thus, I can guess what I'd be
 If I'd mastered all puzzles in full.
 I'd be just one exciting enchanting insight,
 Quite the opposite feeling to bored.
 I'd be truth and assent, fulfillment and desire,
 Understanding and meaning as well.
 I'd have no need of space, or of time, or of friends,
 But could make all of these if I chose.

All the future and past would be present to me,
 So I'd not be restrained to one view.
 I could write an insight in the whole universe,
 That could not fit within any part.
 Or I'd fix up a set of particular laws
 To relate a few bits 'mong themselves.
 I'd put sense in the whole of good actions of men
 While allowing each freedom to sulk.

But in fact there are puzzles I just haven't solved,
 So I've no claim at all to be God.
 And while God understands both himself and the world,
 I've no grasp of his insights or plans.
 So to puzzles of faith, and of sin, and of hope,
 I'm most happy to answer, "God knows",
 Being grateful he gave me my own little mind.
 Soon in heaven I'll blow it with him.

16. Conclusion

Aristotle told us that the mark of intellect, as distinct from sense, is that one intense exercise of intellect stimulates lesser insights instead of dulling them [43].

This insight of mine into a new educational opportunity can throw light on an old historical puzzle. What did St. Thomas Aquinas mean when, at the age of 49, he stopped dictating and said to his secretary, All my writings are but straw [44]?

We must investigate the source of that straw, while being careful not to underestimate the value of the straw itself. In this we can be guided by Gottlob Frege, the founder of modern symbolic logic. In 1895, having met David Hilbert, who had just been appointed professor of mathematics at Göttingen, Frege wrote him a letter containing a metaphor which captures the value both of symbolism and of its source in thought:

Where a tree lives and grows it must be soft and succulent. But if what was succulent did not in time turn into wood, the tree could not reach a significant height. On the other hand, when all that was green has turned into wood, the tree ceases to grow. [45]

St. Thomas probably had that same metaphor in mind. Straw is the majestic structure in which the record of a plant's growth is preserved, in an orderly and discernible fashion.

But the living plant would be so much richer and more productive. When he spoke thus to Reginald, Thomas had just discovered the source of this growth, and had realized that he had to take time off from writing in order to forge a new philosophy in this more lively mode.

In brief, St. Thomas had just discovered Lonergan's approach, and has envisaged vast Canadian plains of green and growing wheat replacing his own dry, but oh so precious, supply of straw. The means for such widespread growth in the realm of the mind are now at hand.

NOTES

[1] B. Lonergan, Insight: A Study of Human Understanding [London: Longmans, 1957], p. 3.

[2] Aristotle, Metaphysics, I, 1, 980a 22.

[3] Lonergan, Insight, p. 3.

[4] Descartes, The Geometry of Rene Descartes [NY: Dover, 1954], p. 22. It appeared originally as one of three essays accompanying the Discourse on Method: see Descartes, Oeuvres, ed. Charles Adam and Paul Tannery [Paris: Cerf, 1897-1910], Vol. 6, pp. 367-485.

[5] Lonergan, Insight, pp. 31, 32. [6] Ibid., p. 3.

[7] B. Lonergan, "Cognitional Structure," Collection [Montreal: Palm Publishers, 1967], Ch. 14, #3, p. 225, Collected Works of Bernard Lonergan, eds. F. E. Crowe and Robert M. Doran [Toronto: U. of Toronto Press, 1988--henceforth CWL], Vol. 4, p. 209.

[8] B. Lonergan, Method in Theology [London: Darton, Longman & Todd, 1972], p. 7.

[9] B. Lonergan, Understanding and Being, eds. E. A. Morelli and M. D. Morelli [NY: The Edwin Mellen Press, 1980, second edition forthcoming as CWL, Vol. 5], p. 1.

[10] Through Insight, p. 4, footnote: Eliot Dole Hutchinson, in P. Mullahy, ed., A Study of Interpersonal Relations [NY: Hermitage Press, 1949], pp. 386-445. Hutchinson himself refers us to an equally valuable set of reports collected by Washington Platt and Ross A Baker, "The Relation of Scientific 'Hunch' to Research," Journal of Chemical Education, 8 [1931]: 1969-2002. My favorite is from D. Wesson: "I had been studying to improve circulation of oil in pipe coils for several days. Sunday in church the correct principle came like a flash as the preacher was announcing the text. I put it in practice. It was correct. Strange to say I have always remembered the text and the sermon." [Ibid., p. 1980]

[11] Lonergan, Insight, p. 423. [12] ibid., p. 72; also xi, 243, 382.

[13] I have since found that Jerome S. Bruner, in his Beyond the Information Given: Studies in the Psychology of Knowing, Selected, edited and introduced by Jeremy M. Anglin [NY: W. W. Norton, 1971] does advise us "to keep an eye out for the tinker shuffle, the flying of kites, and kindred sources of surprised amusement" [p. 209]. he remarks (my emphasis) that "Children, of course, will try to solve problems if they

recognize them as such" [p. 447], but he then goes on to say that "how to lead children to discover the powers and pleasures that await the exercise of retrospection" is "one of the great problems one faces in devising curricula" [p. 449]. Many other fascinating but scattered remarks by Bruner could easily be interpreted into a powerful strategy of education by Lonergan's philosophy. For instance, "the best introduction to a subject is the subject itself" including "the forms of connection, the attitudes, hopes, jokes, and frustrations that go with it" [p. 446].

[14] Bruner is quite explicit on this, when he speaks of the "reward that is discovery itself" [Ibid., p. 406], and tells us that "the reward of understanding is a more robust lure to effort than we have yet realized" [p. 447].

[15] For their acceptance of this project and their extremely friendly and efficient cooperation I am very grateful to Miss Lucy Spano, Principal of St. Joseph the Worker School, North Reservoir, Victoria, Australia, Jenine Fogarty and Chris Gleeson, Grade 6 teachers, Paul Walsh, their support teacher, Marella Pace, Religious Education Coordinator, Fr. Joseph Yu, Parish Priest, Fr. Victor Farrugia, curate, and especially all the boys and girls of the 1987 Grade 6 classes.

[16] See the motto on the title page of Insight, referred to on p. 677 as "Aristotle's . . . famous statement on insight in the De Anima that forms are grasped by mind in images." Also pp. 70-78, 87-89, 103-104, 220, 481; B. Lonergan, Verbum: Word and Idea in Aquinas [London: Darton, Longman & Todd, 1968], p. 14, "Isomorphism of Thomist and Scientific Thought," Collection, pp. 147-48, 150 [CWL 4, pp. 137-38, 140].

[17] Method in Theology, pp. 83, 115, 261-62, 274-75.

[18] Insight, pp. 4-5. [19] Ibid., p. 6.

[20] Ibid., xxiii-xxvi, pp. 591, 635-6.

[21] Verbum, pp. 32, 183-91, "Christ as Subject: A Reply," Collection, p. 192 n. 50 [CWL 4, p. 179].

[22] Lonergan often refers to such topics when speaking of interiority. For instance, in Method in Theology, "an appropriation of one's own interiority, . . . one's operations, their structure, their norms, their potentialities," in "a heightening of intentional consciousness" which "constitutes the evidence for one's account of knowledge" [p. 83].

[23] Gal. 5.22-23.

[24] B. Russell, Why I am Not a Christian and Other Essays [London: George Allen & Unwin, 1957], pp. 3-4.

[25] F. W. Westaway, Craftsmanship in the Teaching of Elementary Mathematics [London: Blackie, 1931].

[26] George Polya, Mathematical Discovery: On Understanding, Learning, and Teaching Problem Solving, 2 volumes [John Wiley, 1962, 1965].

[27] Insight, pp. 272-74, 320-21, "Christ as Subject: A Reply," Collection, pp. 173-92 [CWL 4, pp. 162-79], "Cognitive Structure," Collection, #3, pp. 224-27 [CWL 4, pp. 208-11].

[28] Insight, pp. 381-83.

[29] Ibid., pp. 72, 243; also xi, pp. 423-30.

[30] Ibid., pp. 4, 9, 105, 173-74, 350-52, 636-39.

[31] Ibid., pp. 274, 431-34.

[32] Understanding and Being, 1980, pp. 254-56.

[33] Insight, pp. 245-70, 434-42.

[34] Ibid., pp. 154-55, 283-87, 340, 350, 356-57, 374-84, "Cognitional Structure," #4, Collection, pp. 227-57 [CWL 4, pp. 211-14], Verbum, pp. 87-88.

[35] Giovanni Sala, Das Apriori in der menschlichen Erkenntnis: Eine Studie über Kants Kritik der reinen Vernunft und Lonergans Insight, Meisenheim am Glan: Verlag Anton Hain, 1971. See also Insight, x, p. 406.

[36] Insight, pp. 348-50. For hints at the nominal definition of being, which I give here, see p. 353, "that things are," "that there are many things," "Is it?" and F. E. Crowe in Ultimate Reality and Meaning 7 [1984]: 67.

[37] Insight, pp. 361-62, taken with pp. 356-57.

[38] Ibid., pp. 77, 644-45, 653-57, 677-86, Understanding and Being, CWL 5, Discussion 4, #2, "Probability Theory and the Existence of God."

[39] Insight, pp. 4, 516-20, 647-48, 660.

[40] Ibid., pp. 660-69, and Lonergan, Grace and Freedom: Operative Grace in the Thought of St. Thomas Aquinas, ed. J. Patout Burns [London: Darton, Longman & Todd, 1971], pp. 72-84, 88-91.

[41] For an indication of how this can be done with tertiary students, see my forthcoming, "Rediscovering Philosophies Through Cognitional Models."

[42] For the tune I am indebted to Loretta Brennan, CSB.

[43] De Anima, III, 4, 430a 27-b 6. See T. V. Daly, "How Lonergan Illuminates Aristotle," in Lonergan and You, ed. John Heesh and Neil Ormerod [Pymble, NSW: Lonergan Centre, 1986], pp. 11-31.

[44] For the data and a less adventurous interpretation, see James A. Weisheipl, Friar Thomas d'Aquino: His Life, Thought and Work [Garden City, NY: Doubleday, 1974], pp. 320-27.

[45] Gottlob Frege, Wissenschaftlicher Briefwechsel, herausgegeben von Gottfried Gabriel and others [Hamburg: Felix Meiner, 1976], p. 59, English translation by Hans Kaal, Philosophical and Mathematical Correspondence [Oxford: Basil Blackwell, 1980], p. 33. Hilbert endorsed Frege's view: "I believe that your view of the nature and purpose of symbolism in mathematics is exactly right. I agree especially that the symbolism must come later and in response to a need, from which it follows, of course, that whoever wants to create or develop a symbolism must first study those needs." Ibid., p. 59-60, ET p. 34.

REVIEW

William J. Danaher, Insight in Chemistry. Lanham, MD: University Press of America. 1988.

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A person involved in academic chemical education and research as well as being reasonably familiar with the thought of Bernard Lonergan, I must admit to certain feelings of apprehension when I read the announcement of the publication of William Danaher's Insight in Chemistry [1] in a previous number of Method [2]. After receiving the book, I found that in some ways my fears were misplaced. The book is an excellent introduction to the thought of Bernard Lonergan in the context of contemporary philosophy of science, with some concrete examples taken from the science of chemistry. Furthermore, though my biggest problems are with what I consider a somewhat idiosyncratic approach to the sciences, the science is basically correct. At the same time, I was very disappointed. On further reflection, I realized that my disappointment was not so much with the book itself as with the development, or perhaps I should say lack of development, in Lonergan studies vis-à-vis the physical sciences and the philosophy of science. More on this later.

In the preface the author states the goal of the book: "The goal is to place science, and in particular chemistry, within a larger context by considering it from a methodological viewpoint" (p. iii). To achieve this goal the author divides the book into five chapters.

The first chapter gives a good summary of the contemporary scene in the philosophy of science -- analytical philosophy, Popper and the falsificationists, Lakatos and research programs, Thomas Kuhn and the significance of paradigms and social factors in the development of science. The author then comments on the problem of reductionism (which will be a central theme in the book) and briefly describes "general systems theory" which is one attempt to deal with the problem. After a few paragraphs on the history of chemistry, Danaher attempts to place the whole discussion in the context of Lonergan's turn to the subject. I believe that Danaher is correct in stressing that Lonergan's contribution to the philosophy of science

will involve a general empirical method that integrates both poles of the knowing process -- the knowing subject and the scientific reality to be known by the self-transcending subject.

Chapter 2 provides a good introduction to Lonergan's theory of knowledge, with emphasis on the objectivity of human knowing. There is an unfortunate terminological mistake (p. 53) where the author mistakenly refers to an example of general structural isomerism as geometrical isomerism (more commonly referred to as cis-trans isomerism). However, the mistake does not detract from the point the author is trying to make.

Chapter 3 continues the discussion of Lonergan's thought, essentially reviewing chapters 2 and 3 of Insight [3]: "heuristic structures of empirical method" and "the canons of empirical method." It is a very competent discussion. Chapter 4 is a relatively short summary of pages 437-442 of Insight, "explanatory genera and species." This is surely a key section of Insight for dealing with the problem of reductionism.

Chapter 5 is titled "The Science of Chemistry." It is an attempt to "provide specific details concerning the science of chemistry, its things, conjugates and schemes, and their relationship to those on the level of physics" (p. 111). For Danaher, it seems that the defining characteristic of physics is that it deals with unbound particles (p. 114). The conjugates of physics are such things as mass, charge, hypercharge, isospin, color, etc." (p. 114). The emergence of bound particles, then, indicates the "transition to chemistry." Thus the chemist deals with conjugates such as "atomic number, atomic mass, ionization energy and electron affinity" (p. 115). To the practicing chemist or physicist, the use of bound versus unbound particles as the dividing line between chemistry and physics will seem quite strange. Specifically, much of what Danaher describes as chemistry, because it is concerned with bound state problems, would normally be a part of atomic or molecular physics. Danaher, in a note (p. 128), recognizes the difference between his (Lonergan's?) definitions of physics and chemistry and those of the ordinary scientist. That the boundaries between the disciplines are quite arbitrary and very much a product of historical accidents is obvious to anyone working in interdisciplinary scientific research (consider current work in super conductivity or the cold fusion controversy). It is also very possible to say that the division of the sciences may need to be realigned. However, the fact is that the basic theoretical construct that explains the interactions of particles in both contemporary physics and

chemistry, quantum mechanics, does not basically distinguish between bound and unbound systems. The proposition that "the chemical conjugates are defined only on the level of chemistry and are not logically related to those of physics" (p. 120) may be true in a technical Lonerganian sense that the higher levels cannot be simply reduced to the lower level or, conversely, that chemical systems cannot be extrapolated from the lower one by simple formal logic. However, to say that the two levels are "not logically related" is to contradict the whole thrust of modern chemistry and physics.

The author then continues to consider "some particular aspects of chemistry" -- the periodic table, the problem of things within things and, finally, the nature of models. In the discussion of things in things, the author points out correctly that contemporary quantum mechanics has forced chemists and physicists to leave behind a simple imaginative model of molecules containing atoms that in turn contain subatomic particles.

The section on models deals with the importance of images in the development of theory. This is an important topic. Three-dimensional molecular models, graphs and figures are found everywhere in the chemical laboratory and literature. However, this is not what scientists usually mean by a model. (Again the author does allude to this difference in a note, p. 130.) In science a model normally refers to an explanation for a phenomenon where the scientist consciously makes use of a limited subset of the factors that should be considered in a complete explanation. Thus a simple liquid can be 'modeled' by using a simplified function to describe the potential energy interactions of the molecules (a simplified mathematical function leaving out long distance interactions) and classical mechanics (not quantum mechanics) to describe the molecular motions. Such models have a very important role in all areas of science, both because of the intuitive insight they offer and because they often work amazingly well.

A chemist reading chapter 5 will have the feeling that the discussion is very distant from his or her own world, not just in the sense that the questions asked are "meta-scientific". Here the author is correct in recognizing that the relevance of Lonergan's thought is not in setting down rules for laboratory or theoretical practice. Rather, the way the problems are posed does not seem to address the further questions that both scientists and philosophers are asking. This

is unfortunate because, as Danaher has already pointed out in the first chapter, Lonergan's contribution is precisely to bring together the two poles of the knowing process -- the object which is known and the knowing subject.

Chapter 6 returns to a discussion of "generalized empirical method." The ultimate goal is to develop what Danaher refers to as "metascience."

A chemist cannot effectively proceed without a meta-viewpoint. While the meta-viewpoint may not necessarily be of assistance in the laboratory while performing experiments, it is necessary when it comes to expressing results. If the chemist has not made the transition to a critical realism then the expression of chemical knowledge may contain a reductionist or naive realist bias. Further the meta-viewpoint is necessary for an understanding of chemical science in so far as it provides a base for distinguishing between descriptive and explanatory understanding. The chemist, both as a scientist and a teacher, must aim for the latter. (p. 141)

Toward this goal the author has provided us with a good synopsis of Lonergan's thought with a view toward Lonergan's potential contributions to the philosophy of science. It would be a good supplementary text for a college or seminary course in a topic such as the philosophy of science, or a course on the relationship between science, religion and other areas of culture. On the other hand, because of the difficulties discussed already in relationship to chapter 5, I would be slow to give it to a scientific colleague who is wrestling with those "further questions." For the trained philosopher of science, I think Lonergan's own works, either Insight or some of the papers in Collection [4] would be more suitable.

My review could easily end here. However, as I suggested at the beginning, I think the problems of this book are symptomatic of the current state of what has come to be known as Lonergan studies.

Those of us who consider themselves in some way 'followers' of Lonergan remember fondly those moments when we first grasped some aspects of his thought -- the notion of the real and objectivity, the nature of 'things' and "things within things," the complementarity of classical and statistical methods, emergent probability, the distinction between common sense and theory, the notion of bias. Those who were in the natural or behavioral sciences immediately felt that these were very important breakthroughs that could contribute to an adequate philosophy of science. For those of us with strong religious convictions, Lonergan's thought also seemed a natural bridge between religion and science [5]. As I see it, the

most creative contributions of Lonergan's thought have been in the integration of the behavioral sciences, moral theology and spiritual theology. The names of Robert Doran [6] and Walter Conn [7] immediately come to mind. There has been some limited work in the philosophy of science by persons such as Philip McShane [8], Patrick Heelan [9] and Patrick Byrne [10]. But from my vantage point at least, the promise that seems implicit in Lonergan's works has not come to fruition. Why?

One of the reasons is surely the difficulty in interpreting Lonergan. Danaher in his book (as well as this reviewer in his much more limited writings) tends to more or less repeat in the same words what Lonergan has said. It is surely the safest practice, we won't be accused of misinterpreting Lonergan's thought. But unless we get beyond that, the interdisciplinary work that Lonergan so desired will never happen. In a recent issue of Method there was an article on "what is a thing for Lonergan" [11]. The article was refreshing, because the author was willing to say in print that at least some of the Lonergan 'experts' were not quite sure what Lonergan meant by one of his key categories in Insight. There is, of course, the further possibility that the lack of clarity stems from a deeper problem in Lonergan's own development of the topic.

If we are unable to creatively appropriate Lonergan's thought, then it will be almost impossible to accept a creative input from the natural sciences or contemporary philosophy and history of science. My basic problem with the book Insight in Chemistry stems from this problem. The relationship between physics and chemistry is in many ways an ideal area for a creative encounter between the thought of Bernard Lonergan and modern empirical science. (The chemistry-biology and biology-psychology interfaces are in a sense more critical, but the strong emotional biases also make them more difficult to deal with.) There have been important experimental advances in physical chemistry and chemical physics spurred by the development of vacuum technology and the laser. Already at the beginning of the century quantum mechanics brought a new degree of unity to chemistry and physics. The more recent developments in computational hardware and software have allowed the theoretical tools to be applied to ever more complex systems. I am personally convinced that Lonergan's thought can shed much light on problems raised by these contemporary

developments -- the status of the overarching paradigms like quantum and classical mechanics, the nature of models and simulations, the hierarchical nature of reality and, most importantly (to this reviewer at least), in what sense is scientific knowledge approaching truth. But there is a converse: the work of scientists will help the philosopher sharpen his or her philosophical categories. Danaher recognizes this when he talks of the self-correcting nature of science. Lonergan recognizes it when he uses scientific categories to develop his theory of knowledge. However, if these developments are to take place, then both the scientist and the philosopher must enter the process as equals, both willing to be changed in the process. Neither side should set the agenda for the other.

Surely another difficulty is that such development requires a type of interdisciplinary approach seldom found in academe. There is no one thinker who will be familiar with the intricacies of quantum logic, the metaphysics of Lonergan, the day-to-day work of chemists and physicists, the history of science, the history of philosophy, etc., etc. In such an interdisciplinary setting each person is forced to express opinions about things outside of his or her "field of competence." Only if we are willing to venture beyond our own areas will there be development.

In a way I am suggesting that what I refer to as Lonergan studies has become a bit closed in upon itself, at least in relationship to the sciences. This phenomenon is, of course, found in almost all fields of inquiry (including the physical sciences). Lonergan's thought, or for that matter any transcendental approach to philosophy, is not particularly in fashion in these days of deconstructionism, radical pluralism or the "anything goes" philosophy of a Feyerabend. Yet I am convinced that the influence of persons like Popper, Lakatos and Kuhn stems in large part from the fact that working scientists felt these authors had said something significant about their science as it is actually developing. The challenge for students of Lonergan is not so much to show where scientists have erred when they comment on scientific method, but to show how Lonergan's thought is able to successfully explain what they are doing when they do science.

When Lonergan was still attending the Lonergan workshops, he would often end the afternoon "ask the master" session by saying "be good non-disciples." In "reaching up to the

mind of Aquinas" Lonergan has often been accused by other Thomists of misreading the mind of Aquinas. He surely did in some smaller areas, possibly in a more fundamental way. Should we, who feel his thought has something very important to say for our age of science and technology, be any less daring? I have been critical of William Danaher's book for not taking the science seriously enough. However, he did take the science seriously enough to write the book, ask the questions, set the agenda. For this we are thankful.

NOTES

- [1] William J. Danaher, Insight in Chemistry [Lanham, Md.: U. Press of America, 1988].
 - [2] "Books Received," Method, Vol. 6, No. 2 [1988], p. 138.
 - [3] B. Lonergan, Insight: A Study of Human Understanding [NY: Philosophical Library, 1958].
 - [4] B. Lonergan, Collection, eds. F. E. Crowe and R. M. Doran, Vol. 4 of The Collected Works of Bernard Lonergan [Toronto: U. of Toronto Press, 1988].
 - [5] F. E. Budenholzer, "Science and Religion: Seeking a Common Horizon," Zygon, Vol. 19, No. 3 [1984]: 351. L. Gilkey, "Nature, Reality and the Sacred: A Meditation in Science and Religion," Zygon, Vol. 24, No. 3 [1989]: 383.
 - [6] R. M. Doran, Psychic Conversion and Theological Foundations: Toward a Reorientation of the Human Sciences [Chico, CA: Scholars Press, 1981].
 - [7] W. Conn, Christian Conversion: A Developmental Interpretation of Autonomy and Surrender [NY: Paulist Press, 1986].
 - [8] P. McShane, Randomness, Statistics and Emergence [Dublin: Gill and Macmillan, 1970].
 - [9] P. A. Heelan, Quantum Mechanics and Objectivity: A Study of the Physical Philosophy of Werner Heisenberg [The Hague: Martinus Nijhoff, 1965].
 - [10] P. H. Byrne, "God and the Statistical Universe," Zygon, Vol. 16, No. 4 [1981]: 345.
 - [11] P. A. Kidder, "What is a Thing for Lonergan?", Method, Vol. 7, No. 1 [1989]: 1.
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A NOTE ON A NOTE:
RESPONSE TO CROWE

Terry J. Tekippe
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I am pleased that Fred Crowe has drawn attention, in the last issue of Method, to my article in Gregorianum [1].

Readily I grant one of his main points: the article could have been improved by a fuller analysis of Lonergan's position on the will. I am grateful that, in his Note, Crowe has gone some way toward supplying that.

After reading his criticism, however, I believe that Fr. Crowe has missed the point of my article. Happily, his excellent presentation makes it possible to restate the point very succinctly.

I present two theses:

1. Lonergan held that freedom and necessity are not compatible in one and the same act of willing.

2. Thomas held that in certain cases freedom and necessity are compatible in one and the same act of willing.

For the first thesis, Crowe's Note supplies the evidence. "Freedom and necessity are compatible in the whole process, but not in one and the same act . . ." (132). For the second, I refer the reader to my original article in the Gregorianum in general, and to the Thomistic texts 7), 9), 12), 13), 15) and 18) in particular.

Lonergan mistakenly thought Thomas' final stance was the position represented in thesis 1. In fact, Thomas throughout his life held to the position of thesis 2.

NOTES

[1] F. E. Crowe, "Thomas Aquinas on the Will: A Note on Interpretation," Method 8 [1990]: 129-34. Terry J. Tekippe, "Lonergan's Analysis of Error: An Experiment," Gregorianum 71 [1990]: 353-74.

CALL FOR PAPERS

For a collection entitled Lonergeran and Communication, Thomas J. Farrell of the University of Minnesota-Duluth and Paul A. Soukup, S.J., of Santa Clara University seek 500-word proposals for essays. They recently co-edited with Bruce E. Gronbeck of the University of Iowa, a similar collection entitled Media, Consciousness and Culture: Explorations of Walter Ong's Thought [Newbury Park, CA; London, & New Delhi: Sage, 1991]. For the projected Lonergan collection, all proposed topics related his work to the history, theory, or practice of rhetoric or any dimension of human communication, including hermeneutics, pedagogy, inculturation, and the development of world-cultural humanity and cosmopolis, will be considered.

Recently the rhetoric of inquiry has received scholarly attention, but without the benefit of Lonergan's insights about inquiry. For example, the University of Wisconsin Press has brought out thirteen books in its series on the Rhetoric of the Human Sciences, the University of Minnesota Press has issued Science and Its Fabrication and Physics as Metaphor, and Sage has published Rhetoric in the Human Sciences and The Writing Scholar: Studies in Academic Discourse. Several essays could explore the implications of Lonergan's insights for the study of the rhetoric of inquiry in different fields. Others might relate Lonergan's thought to the work of another major thinker such as Kenneth Burke, Chaim Perelman, Walter Ong, S.J., Jacques Derrida, Richard Rorty, A. J. Greimas, Jean-Francois Lyotard, Paul Ricoeur, Hans-Georg Gadamer, or Eric Voegelin.

The deadline for submitting 500-word proposals is 15 September 1991. The authors will be notified about whether or not they are to proceed to prepare full drafts of their essays by 1 December 1991. The deadline for submitting full working drafts for the editors to review and comment on is 15 September 1992. While the working drafts could exceed 6,000 words, final drafts (including endnotes) are not to exceed 6,000 words. The tentative deadline for final drafts is 15 June 1993.

The 6,000-word final essays, especially the opening paragraphs, are to be accessible to readers who are not already familiar with Lonergan's work, including graduate students. Consequently, authors are to embed definitions of technical terms in their texts. The final essays are to start fast, move fast, and conclude fast, with a minimum of repetition. Asides should be placed in discussion notes. Inclusive language is to be preferred over non-inclusive language. But quotes from Lonergan and other sources are to give the exact wording from the original source without altering the language. The essays are to use the Chicago endnote system for the first reference followed by parenthetical documentation in the text for subsequent references to a given work (cf. The Chicago Manual of Style, 13th ed.). The entire manuscripts, including block quotes and endnotes, are to be double spaced. The authors will be expected to submit both a hard copy and a disk copy of their essays, preferably in WordPerfect 5.0.

Proposals for essays are to be sent to: Thomas J. Farrell, Institute for Interdisciplinary Studies, University of Minnesota-Duluth; Duluth, MN 55812-2496, USA. His BITNET address is T Farrell@UMNDUL. His telephone numbers are (218) 726-7292 (office) and 724-0669 (home).

