

# Durham E-Theses

---

## *Revelation and Christian learning.*

David Stephen Heywood

### How to cite:

---

Heywood, David Stephen (1989) Revelation and Christian learning. Doctoral thesis, Durham University.

### Use policy

---

The full-text may be used and/or reproduced, and given to third parties in any format or medium, without prior permission or charge, for personal research or study, educational, or not-for-profit purposes provided that:

- a full bibliographic reference is made to the original source
- a <https://etheses.durham.ac.uk/id/eprint/1538/> is made to the metadata record in Durham E-Theses
- the full-text is not changed in any way

The full-text must not be sold in any format or medium without the formal permission of the copyright holders.

Please consult the [full Durham E-Theses policy](#) for further details.

**REVELATION AND CHRISTIAN LEARNING**

**David Stephen Heywood**

**submitted for the degree of Doctor of Philosophy**

**University of Durham**

**Department of Theology**

**1989**

The copyright of this thesis rests with the author.  
No quotation from it should be published without  
his prior written consent and information derived  
from it should be acknowledged.



**- 2 NOV 1989**

**Abstract**

The subject of the thesis is the relation between the mechanisms of human learning and the appropriation of divine revelation. Its conclusion is that while revelation may be understood in the traditional sense as a definitive divine disclosure, the means by which such a disclosure is received and understood are those of the ordinary processes of human learning.

The study draws on the full range of disciplines integral to Christian education, particularly the philosophy and psychology of perception and learning and the theological doctrines of humanity and revelation. In the first chapter, a methodological framework is offered by which to relate these disciplines.

The conclusions of the thesis are as follows: Learning is an interactive process of "assimilation and accommodation", in which a psychological "world-model" is gradually developed. Such world-models, whose basic units are termed "schemata", consist of "tacit" rather than explicit knowledge. They are affectively or evaluatively structured, reflecting the fact that their formation is the result of the development of a sense of coherent identity. Revelation takes place by means of the gift of a new identity, characterised by a relation to God in Jesus Christ mediated by the Holy Spirit. Christ is the "exemplar", or concrete pattern of Christian identity, knowledge of whom is available as an historical figure interpreted by the indwelling Holy Spirit. Christian learning is the development and maintenance of that new identity. In revelation, God acts by his Holy Spirit in such a way as to preserve both human autonomy, which is itself a gift of God in creation, and the active character of the learning process.

A final chapter investigates some of the implications of the paradigm presented here against a wider philosophical background.

## ACKNOWLEDGEMENTS

I would like to record my thanks to several members of the University who have given their time to read parts of my work and to give help and advice; Dr. Geoff Alred (Education), Dr. Bill Williamson (Sociology), Dr. Robert Drewett and Dr. Arthur Still (Psychology), Dr. Richard Roberts, Dr. George Dragas and Prof. Daniel Hardy (Theology). Also to the staff of the University Library, Education Department, Mrs. Joyce Adams, Mrs. Mary Herbert and Mrs. Joan Brown.

I have benefitted greatly from the discussions of the North of England Institute for Christian Education seminar group between 1983 and 1986 and the Systematic Theology seminar group of 1985-6. Also from discussions with Prof. Stephen Sykes in the course of the preparation of a joint paper.

Dr. Ann Loades was generous enough to make time during a sabbatical to discuss my work after she had taken over from Prof. Sykes as my departmental tutor.

In particular, my thanks go to Dr. Jeff Astley of the North of England Institute for Christian Education, my supervisor, for his unstinting support, his invaluable help and advice and generous allocation of time.

## REVELATION AND CHRISTIAN LEARNING

<b>Introduction</b>	<b>6</b>
Notes	14
<b>1. Revelation and Human Self-Understanding</b>	<b>16</b>
1. Theory and Observation in Science	17
2. "Images of Man" in Social Science and Theology	23
3. The Possibility of Revelation	30
Notes	35
<b>2. Interaction: Mechanism and Meaning</b>	<b>45</b>
1. The Complementary Roles of Philosophy and Psychology	46
2. The Contribution of the Knower	53
3. A Theoretical Framework: Interaction	57
4. Meaning and Intentionality	63
Notes	68
<b>3. Personal Knowledge</b>	<b>72</b>
1. The Physical Basis of Tacit Knowledge	73
2. The Cognitive Domain: Exemplars	77
3. "Frames" and the Structure of Schemata	84
4. Analogy and the Affective Domain: Salience	91
5. Dissonance: A Cognitive Theory of Emotion	98
6. Attitudes and Affective Processing	102
Notes	106
<b>4. Knowledge and Personal Identity</b>	<b>111</b>
1. The Social Context of Learning	112
2. Psycho-Social Development	119
3. Self and Others	125
4. Identity Formation as the Motive for Learning	129
Notes	134

<b>5. Human Autonomy in the Process of Revelation</b>	<b>139</b>
1. The Image of God	140
2. The Elusive Agent	145
3. The Spirit of Revelation	154
Notes	162
<b>6. Learning Christ</b>	<b>170</b>
1. The Approach to the Study of Revelation	171
2. A Universal Knowledge of God?	175
3. Jesus Christ as the Content of Revelation	183
4. The Historical Christ	191
5. Conformation	196
6. Ideology and Inspiration	203
Notes	211
<b>7. Reflection</b>	<b>223</b>
1. Interaction and the Cognitive Orientation	224
2. Interaction and the Synthetic <i>A Priori</i>	229
3. Imagination	235
4. Transcendental Idealism and the Status of the "Real"	241
5. Necessities of Discourse	246
6. "I"	250
7. The Purpose of God in Creation	259
Notes	265
<b>Bibliography</b>	<b>271</b>
<b>Index</b>	<b>299</b>

## DECLARATION

No part of this thesis has been submitted for a degree in this or any other university. All the research has been the author's own work.

The copyright of this thesis rests with the author. No quotation from it should be published without his prior written consent and information derived from it should be acknowledged.

## Revelation and Christian Learning

### INTRODUCTION

This thesis is intended primarily as a contribution to the field of Christian education. The expression, "Christian education" is currently used in a number of ways, which may be summarised as follows:

1. Christianity as "curriculum content" in the context of public education. The usual reference is to the teaching of religious education in schools, but it may be extended to include adult education courses.

2. A Christian approach to or philosophy of education, taken as a whole.

3. All that educational activity which takes place within the context of Christian commitment, the means by which Christians grow in the understanding of and commitment to their faith.

These three senses of the term "Christian education" may legitimately be distinguished, and in discussions of a practical nature it is usually clear which sense is intended. From a theoretical point of view, however, the distinction is less helpful, because similar issues arise in each context. In particular, both senses 1 and 3 are vitally affected by the major issue which arises from sense 2, whether a distinctively "Christian" approach to education is possible or legitimate.

It has been argued, in particular by Paul Hirst, that the idea of a "Christian education" is a "contradiction in terms".<sup>1</sup> Education, Hirst believes, has its own, rationally derivable criteria, independent of any particular belief system, such as that expressed in Christian theology. The methods of teaching and learning a particular concept are determined by the inherent and autonomous rationality of the subject area in question, and cannot be affected by criticism from the standpoint of theology.<sup>2</sup> If Hirst's view is accepted then not only is a Christian philosophy of education excluded, but the idea of educational activity within the context of Christian commitment



becomes problematic. Either such education takes place according to rationally definable and publicly recognisable norms and values, unaffected by the Christian context, or something other than "education" is taking place. This view appears to drive a wedge between "education" and "Christian nurture" or formation, which must be regarded as less than educational, and possibly as indoctrination.

Against Hirst's "secular" point of view, with its distinction between public, rationally-based values, such as those expressed in his definition of education, and the "private" values of religious belief, the argument of this thesis is that theological criteria are applicable to every area of life, including education. A Christian philosophy of education is one in which the concepts of the teacher, the learner and the teaching-learning relationship, the aims of the curriculum as a whole and the values expressed in the choice of material are all informed by theological criteria. In particular, it is shown that the study of the way people learn is informed by philosophical anthropology, in the development and criticism of which theology has an important role to play.<sup>3</sup>

Although a Christian critique of education taken as a whole is to be understood as valid and possible, the best way of describing such an exercise is probably as "theology of education". The term "Christian education" is to be used in this thesis in the third of the senses listed above. Christian education is defined as the educational activity which takes place within the sphere of Christian commitment, that is to say, within the Church.<sup>4</sup> Its main task is the facilitation of the growth to Christian maturity of adult believers. It also includes the initiation of children and adult converts into the beliefs and practices of the Christian faith and the training of men and women for Christian ministry in all its many forms. Christian education is both "formative" and "critical". It is formative insofar as its aim is to "nurture" Christians in the understanding of, commitment to and ability to practise their faith. Its critical task is to enable Christians to reflect on the grounds for and consequences of their beliefs.<sup>5</sup>

## INTRODUCTION

While Christian education defined in this way applies mainly to those areas of the Church's ministry particularly concerned with teaching and training, there is also a sense in which Christian education has to do with the whole life of the Church. Every other aspect of the Church's life, such as worship, evangelism and political and social involvement, has an educational aspect. Christians learn their faith not only in formal educational contexts but informally through the whole of the shared life of the community. As John Westerhoff in particular powerfully argues, efforts to enable Christian men and women to reflect on the practice of their faith are likely to be of little value if these are undermined by the "hidden curriculum" expressed in the actual practices of the community.<sup>6</sup> The deliberate attempt of the Christian educator to facilitate learning in formal settings must be matched by deliberate and sustained efforts to ensure that the practices of the church in every other area of its corporate life adequately express the ideals it professes to believe.<sup>7</sup>

The task of the theoretical side of Christian education is to reflect upon the Church's ministry of teaching and training. Like the wider field of education, to which it is related, Christian education is a "practical discipline". A practical discipline is one, like medicine and civil engineering, which, in contrast to theoretical disciplines such as physics, economics or history, is defined by its relation to a particular field of activity. A practical discipline draws on a number of theoretical disciplines relevant to its task. Those relevant to the field of education include psychology, sociology, ethics and philosophy. As a discipline which takes place in the context of Christian commitment, Christian education must include theology as an additional and vitally important element.<sup>8</sup>

There are three main requirements for the effectiveness of Christian education:

1. It must be securely grounded in those areas of theological understanding relevant to the Church's ministry of teaching, such as the nature of man, the nature of revelation and the nature and task of the Church.

2. It must be securely grounded in the various disciplines contributory to the study of education. The theological understanding of the Church, for example, must be supplemented by an account of the Church as an organisation with a social context. The description of man, from a theological standpoint, as creature and as the object of divine grace must be supplemented by an account of man as a learner and as a social being.

3. The work in these two areas must issue in a viable theory of educational practice.

Unfortunately, however, these requirements have proved difficult to meet, with the result that Christian education currently faces something of a crisis of identity. In 1978, a collection of articles on the discipline and methods of Christian education was published with the title, *Who are We?*<sup>9</sup> Seymour and Miller's book, *Contemporary Approaches to Christian Education*, published in 1982, lists five separate approaches, each with contrasting understandings of scope, aims and methods.<sup>10</sup> One of the problems underlying these differences of approach is a failure to resolve the basic question implicit in the nature of Christian education as a composite discipline, the relation between the theoretical disciplines on which it draws. In Christian education, the practices of education and theology meet. What is to be the relationship between them?

One of the reasons for this failure is the division between a "theological approach" to Christian education and an alternative "social science" approach. Advocates of the theological approach argue that since Christian education takes place within the context of Christian commitment, it is to be understood as a branch of practical theology.<sup>11</sup> In the words of Randolph Crump Miller, theology is the "clue" to Christian education.<sup>12</sup> Advocates of the social science approach, on the other hand, reject what they see as "theological imperialism". In their view, Christian education is a type of education, to be governed by the complex of disciplines relevant to the educational task, particularly the social sciences.<sup>13</sup>

## INTRODUCTION

The argument between the two approaches centres around the relation of theology to education on the one hand and the relation between social science and education on the other, with the question at issue, which discipline has the most valid claim to dictate the norms for education in a Christian context. What neither side has attempted, however, is a systematic enquiry into the relationship between theology and the social sciences. But if the three requirements for Christian education, listed above, are to be adequately met, some account of the relationship between its principal constituent disciplines is necessary. Accordingly, as an attempt at a genuinely interdisciplinary approach, the thesis begins with a second-level argument, whose purpose is to establish a theoretical foundation for Christian education by setting out in general terms the relationship between the various disciplines upon which it draws, theology, philosophy and the social sciences, and in particular to demonstrate both the possibility and the propriety of bringing the study of learning within a theological perspective.

The second main aim of this initial argument is to establish the meaning of the term "revelation" from the theological, philosophical and indeed the social science points of view. Revelation stands in a peculiar relationship to theology. Although expressed as a doctrine, it is not an ordinary part of dogmatic theology. Theological doctrines are usually tested by their conformity to revelation. The doctrine of revelation itself, however, cannot be brought within this test. Nor is revelation a part of philosophy. The idea of revelation refers to something which, although decisive for human self-understanding, could not have been discovered in the course of philosophical enquiry. The God of revelation is something more than the ideas of transcendence thrown up by philosophical speculation.<sup>14</sup> Revelation has a status which it is difficult accurately to pin down. It stands at the boundary of both philosophy and theology, circumscribed by neither. The attempt to delineate the relationships between the component disciplines of Christian education serves as a useful platform from which to explore the meaning, in philosophical as well as theological terms, of the concept of revelation.

The doctrine of revelation is an essential part of the theological foundation of Christian education. It deals with the availability of the knowledge of God. Christian learning may be validly understood as the "subjective dimension" of revelation, that aspect of the doctrine of revelation which deals with how revelation is received.<sup>15</sup> Traditional approaches to Christian education have been based on a highly transmissive view, in which revelation has been understood as a set of propositions which form a "deposit of faith" to be handed on from one generation to the next. On the other hand, from the point of view of what is often called an "experiential approach", the idea of definitive content is rejected and revelation can come near to being treated as any experience which contributes to a person's full humanity.<sup>16</sup> Neither of these accounts is adequate. Revelation is to be understood as a process in which the knowledge of God, while historically and definitively given in Jesus Christ, requires continual appropriation and reappropriation in the life of the Christian believer. Christian education is the name of the field in which this process of appropriation takes place. It is, in the words of D.Campbell Wyckoff, "An enquiry into teaching and learning as modes and means of response to revelation."<sup>17</sup>

This being the case, Christian education has an important contribution to make to theology. The "subjective" and the "objective" dimensions of revelation are correlative. "If revelation is really encounter," writes Emil Brunner, "then we cannot understand it without knowing something of him to whom it is made."<sup>18</sup> Brunner's argument is that man is created for revelation. That being so, revelation is to be understood as laying hold of man *in his natural state*. Revelation is given in such a way as to meet the capacity of man to understand it. Earlier in the same work, Brunner writes,

Revelation is always a mystery, but it is never magic...Revelation always passes through a process of understanding by man. Even if revelation creates a new understanding, it does not create this without laying claim upon the natural understanding.<sup>19</sup>

In revelation, something is learned. A new understanding is created, but not by setting aside the way understanding is normally gained.

## INTRODUCTION

What is learned in revelation is learned by means of the normal processes of the understanding. This is the key to the contribution made by Christian education to theology. If revelation is given in such a way as to lay hold of the capacity of man to learn, then the study of human learning plays a vital role in the theology of revelation.

The purpose of the thesis is to establish the position that it is Christian learning which constitutes the subjective dimension of revelation. In particular, it is my concern to show that there is no discontinuity between the appropriation of revelation and the learning processes involved in "ordinary learning". This involves an enquiry into the relationship between revelation and the natural processes of human learning, in order to show that it is these processes which are involved in the reception of revelation. In particular, it must be shown that revelation does not override the proper autonomy of mankind which is expressed in and through the processes of learning.

The natural processes of learning which are to be the subject of investigation are the psychological changes, cognitive, affective and attitudinal, which take place in learning and the social context in which learning takes place and which affects its course. These two aspects of learning, the psychological and the social, are united by the development of a sense of personal identity.<sup>20</sup> It is the unity inherent in personal identity which gives coherence to a person's understanding of the world he encounters with all its diversity. It is personal identity which brings cohesion to the wide range of social roles demanded of him. The construction and maintenance of identity is the principal motivation for the psychological changes involved in learning. It is identity which provides the connection between learning and revelation. The process of revelation involves the gift of a new identity which can be understood in a variety of ways, including "disciple of Jesus Christ", "citizen of the Kingdom of God", or "son or daughter of a heavenly Father". Christian learning consists of the establishment, maintenance and development of that new identity, the original of which is Jesus Christ, who, as the image of God, is the

## INTRODUCTION

pattern of redeemed humanity. The goal of Christian education, therefore, is individual and corporate conformity to Christ.

The argument as a whole traces a course through a wide variety of topics and involves conclusions each of which is potentially the subject of a thesis in itself. These include the nature of the social sciences, the nature of perception, the relationship between the cognitive and affective aspects of learning, the mechanisms of socialisation, the nature and significance of human subjectivity and agency, the sphere of man's proper autonomy in relation to both his creatureliness and his fallen nature, the work of the Holy Spirit in revelation and in relation to the human spirit, and the way in which the relation between Christ and the believer is to be understood. In dealing with each of these subject areas, it has been necessary to draw heavily on the conclusions of others, and it is recognised that if the position put forward in any one section of the thesis were to be revised, the argument as a whole would be affected. At the same time, however, it is maintained that the cumulative force of the argument adds weight to each of its individual sections. The thesis represents the outline of an approach to Christian education developed as a result of attention to one of its most fundamental questions, the relation between learning and revelation.

## Notes

1. Hirst, "Christian Education". Hirst is criticised by John Hull in "Theology and Educational Theory".
2. See also Orteza y Miranda, "Problems". The discussion in this article is, however, seriously inadequate. The "problems" arise from a narrow definition of "education" as correlative with "knowledge" and a correspondingly narrow empiricist definition of knowledge. There is no mention of the *values* expressed in the aims of education, the selection of curriculum content or in the "hidden curriculum" of the institution.
3. See below, p.27-29.
4. The first possible sense of "Christian education", the teaching of religious education in schools, is also excluded for the purposes of this thesis. The justification for the inclusion of religious education in the school syllabus is increasingly coming to be recognised as "educational" rather than "confessional", in the sense that its aim is the *understanding* of the religious beliefs and practices of a variety of faiths rather than the nurture of children and young people into commitment to one faith in particular.  
See Hull, "Christian Nurture to R.E."
5. Melchert, "Church", gives a number of criteria by which a genuinely educational activity may be recognised. Melchert's definition of "Christian education" is however, confined to its critical aspect.  
See McKenzie, *Religious Education of Adults*, p.36f., 63f.
6. Westerhoff sums up his approach, which he calls "catechesis", in a large number of writings. One of the best short summaries is that in *A Faithful Church*, p.1-9.
7. See further my article, "Christian Education as Enculturation".
8. See Wyckoff, "Religious Education as a Discipline", for a proposal for an outline of Christian education which takes into account its interdisciplinary nature.
9. Westerhoff, *Who are We?*
10. Seymour and Miller, *Contemporary Approaches*.
11. Wyckoff, "Religious Education as a Discipline", Westerhoff, *op.cit.*, p.173.
12. Miller, *The Clue to Christian Education*. New York; Charles Scribner's Sons, 1950.
13. See in particular, the works of James Michael Lee: "Key Issues in the Development of a Workable Foundation for Religious Instruction", *Foundations of*

*Religious Education*, ed.O'Hare; "The Authentic Source of Religious Instruction", *Religious Education and Theology*, ed,Thompson, as well as works listed in bibliography. See also McKenzie, *Religious Education of Adults*,

Not all writers accept the issue as a question of dominance. For Thomas Groome, the relationship between theology and the praxis methodology is one of dialogue, a "two-way street" which "holds *theoria* and praxis in a dialectical unity" (*Christian Religious Education*, p.228). James Fowler takes the concept of faith, giving it a particular theological significance as a "human universal", and then attempting to place it in a psychological and a social context (*Stages of Faith, passim*). Groome uses a particular teaching and learning method and draws theology, sociology and philosophy into his exposition of it. Fowler does something similar with a particular concept of religious education's aim. Neither attempts a study of the overall relation between the different fields.

14. Dulles, *Models of Revelation*, p.14.

15. Stroup, "Revelation", *Christian Theology*, ed.Hodgson and King, p.90f.

16. Astley, "On Learning Religion", p.32-33.

17. Wyckoff, *loc.cit.*

18. Brunner, *Revelation and Reason*, p.48.

19. *ibid.*, p.15.

20. "Personal identity" is understood here from the psychological rather than the philosophical point of view. An exploration of the relationship between these two aspects of the meaning of identity is found on p.146f.

## CHAPTER ONE

### Revelation and Human Self-Understanding

It is evident that all the sciences have a relation, greater or less, to human nature; and that however wide any of them may seem to run from it, they still return back by one passage or another. Even *Mathematics*, *Natural Philosophy* and *Natural Religion* are in some measure dependent on the science of MAN; since they lie under the cognisance of men, and are judged by their powers and faculties. It is impossible to tell what changes and improvements we might make in these sciences were we thoroughly acquainted with the extent and force of human understanding, and could explain the nature of the ideas we employ, and of the operations we perform in our reasonings,

*David Hume*<sup>1</sup>

The problem of indicating the character of the human species is quite insoluble.

*Immanuel Kant*<sup>2</sup>

## 1. Theory and Observation in Science

As a branch of practical theology, Christian education must be securely based in theology. As a branch of education, it must be securely based in educational theory. Until now, discussion of theoretical foundations has centred largely around the relation of theology to education on the one hand and the relation between social science and education on the other, with the main question at issue, which discipline has the most valid claim to dictate the norms for education in a Christian context. It is intended, in what follows, to leave the practice of education out of account for the time being, and to enquire directly into the relation between theology and social science.<sup>3</sup>

The first step is to examine the relationship between two related fields, philosophy and the natural sciences. Although in the course of the argument it will become necessary to modify this initial position, theology can be defined chiefly as a conceptual subject, allied to philosophy, while the social sciences are chiefly empirical, and in that respect comparable to natural science. No science, however, can be independent of conceptual, or philosophical, considerations. The progress of a given science has two complementary aspects. These are:

a) observation,

b) the development of concepts and categories by which to unify and comprehend observations.

It is the error of positivism to assume that the scientist can begin with "raw" observation and move on at a relatively late stage to the interpretation of his or her observations.<sup>4</sup> Observation, the search for new facts, requires a fairly clear idea of the sort of thing one is looking for, and this requires a framework of concepts. Like the infant, the trainee scientist is a novice in a new world. He or she must learn to "see" the objects of that new world. The doctor examining an X-ray photograph, the biologist looking into a microscope, the astronomer through a telescope, are using not only their eyes and their technological aids, but also the knowledge they have acquired as a result of their scientific training to interpret

## REVELATION AND HUMAN SELF-UNDERSTANDING

what they see. It is the framework of interpretation which the scientist brings to the task of observation which determines what is found significant and what is ignored. It is that framework also which helps to formulate questions and suggest fruitful directions for research.<sup>5</sup> Stephen Toulmin gives the following examples of the importance of conceptual revision for the advance of the physical sciences:

The arguments by which Galileo, Descartes and Newton launched the science we know as 'mechanics' were certainly as much conceptual - and even philosophical - as they were empirical,,Nor could the basic conceptions of modern dynamics - *matter, force, momentum* and the rest - ever have been established by empirical investigations alone; in actual fact they were quite as much the result of careful conceptual analyses.

Einstein's initial work on the theory of relativity rested, likewise, at least as much on a refined reanalysis of our concepts of *space, time* and *simultaneity* as it did on empirical observations,,As Einstein emphasised himself, he was led to his ideas about relativity, not least by philosophical considerations derived from Hume and Mach,<sup>6</sup>

All data is, in the words of N.R.Hanson, "theory-laden".<sup>7</sup> There are no neutral, independently observable facts waiting for a theory to explain them. Empirical work takes place within a framework of concepts. It is within a given theoretical framework that discoveries are made and knowledge of the subject-matter of the particular science gradually expanded. It is the theory, moreover, which suggests which of the possible research problems is likely to be most fruitful, the theory which influences the design of the research and the theory which tends to control the way the results are interpreted.<sup>8</sup> There is no neutral standpoint from which all the facts appear, "value-free", no privileged level of observation "uncontaminated" by a given theoretical framework. To accept a given fact as significant involves the acceptance of a whole framework within which its significance is explained and by which it is related to all the other relevant facts. But the theoretical or conceptual framework is not to be seen as a strait-jacket, incapable of modification. It is possible for empirical

## REVELATION AND HUMAN SELF-UNDERSTANDING

observation to throw up "anomalies", findings which the theory is incapable of explaining. If enough of these anomalies accumulate, the adequacy of the theory may itself be called in question, and the search for a new theory, which can explain not only the accepted facts but also the anomalous observations, may begin.

The distinction implicit here between the gradual accretion of verified observations within a given theoretical framework and the rejection of a theory and its replacement by another is similar to that made by Thomas Kuhn between "normal" and "revolutionary" science. The main problem with Kuhn's theory was that his distinction was introduced as an historical one, and "revolutionary" science reserved for a few outstanding individuals, an example of the "great man" school of historical writing. Subsequent argument has established that the distinction between "normal" and "revolutionary" science is not primarily an historical but a philosophical one, with practical and historical implications. Minor conceptual revision is taking place all the time. Scientific revolutions which capture the historical headlines are merely outstanding examples of what is, in fact, a regular part of the scientific enterprise. Familiarity with and acceptance of a given theoretical framework is, moreover, the precondition for conceptual revision.<sup>9</sup>

Kuhn's theory helps to resolve the apparent paradox between the theory-laden nature of scientific observation and the impressive unity of the scientific community, not only its unity of purpose, but the unity of its interpretation. Science is not a field in which "anything goes", in which one person's interpretation is as good as any others. Scientific data are public and scientific observations replicable and quantifiable. One scientist can request the results of another's experiments for independent analysis. One scientist can build upon another's results. Science progresses by taking as certain the results of previous series of experiments, by establishing reliably tested laws and axioms. The unity of the scientific community is achieved by the acceptance by its members of a shared conceptual framework. It is not the case that the dependence of fact upon theory means that one

## REVELATION AND HUMAN SELF-UNDERSTANDING

person's theory is as good as any other. Science is the enterprise of a community, which defines itself by the acceptance of a "paradigm", or common theoretical framework.

It is the shared paradigm which specifies the precise meaning of all the terms which fall within it. For scientists who share the paradigm, every term and every observation has a definable, public, quantifiable meaning. When Einstein put forward his theory of relativity, part of what he was proposing was that many of the most important terms in physics, such as *force*, *mass* and *velocity*, should be understood in a different way. For this theory to be accepted, it had to cease to be simply Einstein's theory and become the generally accepted "language" of physicists. Acceptance of a scientific paradigm is a more thoroughgoing and methodologically demanding example of what we all do all the time in order to communicate with one another. No one can be a Humpty Dumpty, for whom words mean whatever he wants them to mean. We all share a common framework of agreement about meaning, a framework within which we understand one another.<sup>10</sup>

Agreement within a scientific paradigm is agreement about what can be taken for granted. According to Sir Karl Popper, the investigation of a scientific theory always terminates in a collective decision to accept some "basic statement" as a valid description of reality. These basic statements, which depend on scientific consensus, are like "piles driven into a swamp". They do not reach the solid bottom of indisputable fact, but are sufficient for the time being to support the structure.<sup>11</sup> The "paradigm", or shared conceptual framework, must be taken for granted so that the work of empirical investigation can proceed.

But if the work of empirical observation is dependent on theoretical frameworks, the work of conceptual analysis cannot proceed independently of empirical observations. Science does not proceed by deductions from first principles. There is no axiom which can be taken with confidence as the "rock bottom", from which deduction may begin. Rather, what can be proposed is a "model", a best possible

## REVELATION AND HUMAN SELF-UNDERSTANDING

approximation, to be understood as closely analogous to reality. The task of the scientist is to discover, by experiment and analysis, how far the particular model is applicable, and what are its limitations.

Such a model or fundamental analogy is termed by Imre Lakatos a "research programme".<sup>12</sup> A "research programme" is much broader than any one particular project. The example Lakatos gives is Newton's gravitational theory. There is a similarity in scope to Kuhnian "paradigms", but Lakatos concentrates on the logical features of research programmes, rather than the effects of the social context in which they arise. A research programme consists of a set of methodological rules for studying a given aspect of reality. It involves a "negative heuristic" or hard core of laws or axioms which must be regarded for the sake of the programme as being irrefutable, in the case of gravitational theory, the three laws of dynamics and the law of gravity itself. It also involves a "positive heuristic", a set of standard methods for solving problems and eliminating anomalies. The research programme is a "way of seeing", which suggests new avenues of research, new problems requiring solution, and generates a series of progressively more adequate subsidiary models. As these avenues are followed up, however, the inherent limitations of the programme begin to become apparent, anomalies which cannot be avoided arise, and the programme gradually runs out of steam, to be replaced by a new and more powerful analogy.<sup>13</sup>

We are now in a position to attempt a preliminary conclusion about the relationship between science and philosophy, as a first step in the attempt to gain an understanding of social science and theology. Science and philosophy are to be understood as interdependent. Science is primarily the work of empirical investigation; it is what takes place *within* a given paradigm or conceptual framework. Philosophy is primarily the work of conceptual analysis. It is what takes place when the theoretical framework is in the process of *revision*. Science and philosophy are not two independent spheres. Their work is related. The scientist works within a conceptual framework, the analysis of which for coherence and

## REVELATION AND HUMAN SELF-UNDERSTANDING

logical implication is a philosophical task. On the other hand, logical systems and conceptual frameworks, which are the subject of philosophy, cannot be isolated from the world of empirical experience. So long as philosophy is an attempt to describe the conditions which govern our understanding of the world we live in, philosophers must make statements capable of empirical investigation and possible refutation. Science and philosophy are not only complementary but inter-related.<sup>14</sup>

## 2. Theology and Social Science

To turn from the analysis of the natural sciences to that of the social sciences is to introduce additional levels of complication. In the first place, the social scientist is attempting to explain the behaviour not of the natural world but of people. Unlike the phenomena of the natural world, from electrons right through to animals, people are not simply the passive objects of observation. People can answer back!

There are some extremely influential schools of social science in which people's own explanations for their behaviour are treated as unimportant. A truly scientific explanation, it is held, requires a detached point of view. In behaviourism, for example, it is axiomatic that any statement about the mind, one which refers to such activities as "thinking", "expecting", "desiring" or "hoping", must be treated as unscientific, since they are incapable of observation. All such statements are to be "translated" into a neutral, "objective" observation-language.<sup>15</sup>

Behaviourism and other similar approaches stand in a well-developed tradition, based on the inductivist or positivist ideal of science.<sup>16</sup> One of the earliest, greatest and most influential attempts to explain the phenomena of human behaviour in terms reducible to scientific generalisations was that of Thomas Hobbes. The basis of Hobbes' philosophy was "materialism", the doctrine that all the operations of the mind can be understood in terms of bodily motions. All thought, he believed, originated in sensation, which is the result of the operations of external objects. Sensation gives rise to imagination, imagination to passion, and passion to "voluntary motion". Human action, therefore, has its origins in physical causation. The study of human action involves the same principles as those applicable to the study of natural phenomena. In fact, Hobbes believed, all human reason could be explained in terms of the principles of geometry.<sup>17</sup>

## REVELATION AND HUMAN SELF-UNDERSTANDING

Hobbes is the intellectual ancestor of David Hume. In the *Enquiry concerning Human Understanding*, Hume declared his intention of discovering the "secret springs and principles by which the human mind is actuated."<sup>19</sup> His method was to attempt to examine the mechanisms of human intelligence from the point of view of a detached observer, a method which involves the implicit assumption that thought and action can be understood, in the same way as any natural phenomenon, as the effects of some external cause.<sup>19</sup> The ideal of the "unity of science", implicit in Hume, was summed up a century later in John Stuart Mill's *System of Logic*, in which he expressed his confidence in the applicability of the scientific method to the study of man.<sup>20</sup> The relative intractability of social phenomena as the object of this method was due not to any difference in kind but solely to the degree of difficulty involved.

The positivist approach to social science depends on the assumption that it is possible to discover a level of observations and a language with which to describe such observations which is "neutral" or "value-free". Such a language describes the facts and nothing but the facts, and theory arises simply as a summary statement of those facts without any additional content by way of explanation. Even for the natural sciences, however, this view is extremely problematic. In the social sciences, the fact that the object of study is the human subject makes it entirely untenable. As Kant observed,

The fact that man can have the idea "I" raises him infinitely above all the other beings living on earth, By this he is a *person*; and by virtue of his unity of consciousness through all the changes he may undergo, he is one and the same person - that is a being altogether different in rank or dignity from *things*, such as irrational animals, which we can dispose of as we please,<sup>21</sup>

In this statement, Kant refers to several of the factors involved in the common-sense conception of the difference between human beings and other objects, including continuity of identity and the idea of "dignity". He also expresses a characteristic view of the relation between humanity and the environment, which he takes to be at man's

disposal. But the most important factor mentioned here is the self-consciousness characteristic of human beings. Because of human self-consciousness, it is impossible for the student of mankind to ignore the *agent's point of view*. This idea has two important aspects:

1. It is a point of view unique to the individual subject. The environment each person inhabits is not simply physical or geographical, but psychological, consisting of his own interpretation of the objects and people with whom he comes into contact, based upon his own unique self-consciousness.<sup>22</sup>

2. The psychological environment is the *creation* of an *agent*. It is not the result of impersonal causal factors. Perception and thought are to be construed as activities.<sup>23</sup>

Even in the study of natural phenomena, interpretation is an indispensable part of theory construction. In the social sciences, in addition, persons' everyday explanations for what they do cannot be ignored. The explanation of human behaviour is a hermeneutical exercise. It consists not simply of the attempt to test one given framework of explanation, that of the scientist, against observed events, but involves interaction between the scientists' explanation and the various common-sense, everyday explanations of the people under observation.<sup>24</sup>

Nor do the complications end here. People's explanations and understandings of their own behaviour typically arise in a given cultural context. They depend on shared frameworks of understanding, which may be implicit in the institutions of a given society. What people actually say and believe is only part of the story. Explicit beliefs rest on a deeper level, the implicit intersubjective agreement, without which society itself could not exist. The social scientist cannot ignore this aspect of social life. As Alfred Schutz remarks of the empiricist approach,

Intersubjectivity, interaction, intercommunication and language are simply presupposed as the unclarified foundation of these theories. They assume, as it were, that the social scientist has already solved his fundamental problem before scientific enquiry starts.<sup>25</sup>

## REVELATION AND HUMAN SELF-UNDERSTANDING

The proper method of the social scientist is described, in the term coined by Dilthey, as *verstehen*.<sup>26</sup> Dilthey's term was taken up by Max Weber, who, in opposition to Durkheim, insisted that "behaviour" must be defined as meaningful action. The agent's own interpretation of his action is not merely its subjective accompaniment, but an inseparable element in that action, and essential to its correct understanding.<sup>27</sup> In everyday life, *verstehen* is that experiential, common-sense knowledge, capable of penetrating the subjectivity of another and interpreting the meaning for the other of her actions. As such, it poses a range of philosophical problems, related to the possibility of the knowledge of the mind of another and the nature of agency.<sup>28</sup> But it is, in addition, the proper method of the social scientist. The social scientist is not simply an external observer. She is a member of society, whose own basic assumptions are in dialogue with those of the people under observation. In the natural sciences, the theoretical framework can be taken for granted for the purposes of empirical investigation, but in the social sciences certain implicit understandings of the phenomena in question, those of the people who are the subject of the investigation, are internal to the investigation and cannot be ignored without a distortion of the nature of the object.<sup>29</sup> In the method of *verstehen*, empirical investigation and conceptual analysis are combined. If she is to be true to her task, the social scientist is required to do both science and philosophy at the same time, a combination which lies at the heart of a genuine hermeneutical method.<sup>30</sup>

At what point and in what way does the theoretical framework of the social scientist interact with the implicit assumptions of the agent or the society in question? The fundamental analogy or "research programme" of any particular school of social science is a certain "image of man".<sup>31</sup> The image of man behind behaviourism has been described as "man the sophisticated rat".<sup>32</sup> In the new and growing field of cognitive science the model is that of "man the information processor".<sup>33</sup> In social psychology it is "man the actor". Like all paradigms, these images of man are models or analogies, the extent of whose applicability is limited. When pushed too far, they become

## REVELATION AND HUMAN SELF-UNDERSTANDING

inappropriate and tend to break down. In cognitive science, for example, problems are encountered when attempting to apply the information-processing model to the study of attitudes. Application to the affective domain reveals its limitations. In particular, problems arise when a potentially useful heuristic begins to acquire metaphysical status. The study of stimulus and response has a proper place as one of the varied aspects of human behaviour. But in behaviourism, this model of human functioning has assumed disproportionate importance.

Not only is the scientists' theoretical framework based on an implicit "image of man", but the implicit foundation of intersubjective understanding which makes society possible also consists of an "image of man". It consists, in the words of Charles Taylor, of a particular definition of "man, human motivation, the human condition," a particular "vision of the agent and his society."<sup>34</sup> We may contrast the aggressive individualism of the United States and many Western societies, for example, with the equally aggressive collectivism of Marxism, the tribalism of many parts of Africa, or the corporatism of Japan. We may contrast the philosophy of self-fulfilment or self-realisation typical of Western society with the self-negation of Eastern religion, in particular of Buddhism. The vision of the human condition, the goal of human striving, may be explicitly expressed in such documents as the American Constitution or the works of Marx and Lenin, or they may be implicitly present, expressed in the institutions or traditions of a given society. There may also be a significant difference between the ideals officially expressed and those more powerful covert elements of tradition, or of changing consciousness.

The applicability of the "images of man", which constitute the fundamental models of the social sciences, is a subject for both empirical investigation and for philosophical discussion. The empirical work involved in the gathering of information must take place against the background of continuous conceptual analysis and reappraisal, of ongoing dialogue between the scientists' points of view and those present in the society in which the research is being carried out. In

## REVELATION AND HUMAN SELF-UNDERSTANDING

this dialogue, there is a role for the theologian. Theology criticises the images of man used by the social scientists and contributes to the conversation models such as "man in revolt", man as creature, man in the image of God. In particular, the theologian meets the image of man as autonomous agent required by the approach to social science based on human self-consciousness with an image of man constituted in his autonomy by a creator God, to whom he is responsible.<sup>35</sup>

The theologian contends that his images offer potentially greater explanatory power over a wider range of experience than do those proposed by the social scientist. But the applicability of the images of social science is not denied. Within a given sphere, such as social relationships or cognitive functioning, images such as man the "actor" or man the "information processor" may be valid and useful. The theologian predicts, however, that these images will eventually reveal their intrinsic limitations and perhaps be replaced.

The source for theological anthropology is the wider area of theology as a whole. Behind the images of man proposed by the theologian are further areas of theological understanding such as the nature of God, particularly as revealed in Christ. But the application of theological statements about mankind to experience, of selecting and appraising the evidence by which such statements are to be validated, requires the active co-operation of the social scientist, albeit a theologically aware social scientist. To a very large extent, this kind of empirical work remains to be done.

If theology and social science meet in a dialogue over their respective images of man, it is with respect to the image of the learner that the theological and social science approaches to Christian education come together. Whereas for the theological approach, the aims and methods of Christian education are based on a theological understanding of the learner, perhaps as a sinner in need of divine grace or as a person in relationship to God, for the social science approach these aims and methods are dictated by "the way the learner learns".<sup>36</sup> If, however, theology and social science meet at the

## REVELATION AND HUMAN SELF-UNDERSTANDING

point of the understanding of mankind, then "the way the learner learns" becomes a topic for theology. Learners learn in a particular way because of the way in which they have been constituted by God as people. Not only can theological anthropology assist in the approach to learning theory by acting as a guide through the maze of sometimes inadequate and frequently contradictory images of man encountered in the various fields of social science, but the study of learning can provide important empirical evidence as a contribution to the theological discussion of the nature of human beings.

### 3. The Possibility of Revelation

"Nearly all the wisdom we possess," wrote John Calvin, "that is to say, true and sound wisdom, consists in two parts: the knowledge of God and the knowledge of man. But while joined by many bonds, which one precedes and which one brings forth the other is not easy to discern."<sup>37</sup> True knowledge of God, Calvin observed, requires true self-knowledge. It is in contemplation of our sinful state that we are led to a consideration of God's perfection. On the other hand, true self-knowledge only arises in the light of and as a result of knowledge of God. Until we know God, we cannot know ourselves truly. It is difficult to decide which comes first, the knowledge of God or the knowledge of man and his sinful state.

Behind both the paradigms of the social scientist and the consciousness of the member of society lie certain "images of man", interpretations of the human condition, the nature and destiny of man, which provide an account for the scientist of the significance of his research and undergird for the "man in the street" his concept of his place in society and his relationships with others. Certain explicit formulations which include a definition of the goal of human striving and thus implicitly of the nature of mankind, such as the constitution of the United States or Marxist doctrine, exercise considerable influence by expressing overtly the shared vision of a society. But explicit statements such as these, as well as systems of ethics, are themselves interpretations of a tacit or implicit awareness of that which is proper to a human being, which it is impossible adequately to formulate.<sup>38</sup>

This common-sense understanding of the nature of mankind is "tacit" or pre-theoretical. The hermeneutical baseline from which the interpretation of human nature begins is incapable of reduction to specific explicit formulation. This brings us into the realm of "tacit knowledge", the term used by Michael Polanyi for the knowledge which lies "below the surface", upon which explicit knowledge is based. In Polanyi's words, "We know more than we can tell."<sup>39</sup> Certain problems,

## REVELATION AND HUMAN SELF-UNDERSTANDING

such as the basis for our belief in the reality of the external world and of the minds of others, as well as the way we are able to infer the feelings of others from their behaviour, defy analysis in explicit, logical terms.<sup>40</sup> These are cases, it is argued, in which tacit knowledge plays an important role. Explicit knowledge, Polanyi maintains, is always based on and takes for granted a significant amount of tacit knowledge which cannot itself be formulated.

While tacit knowledge can be possessed by itself, explicit knowledge must rely on being tacitly understood or applied. Hence all knowledge is either tacit or else rooted in tacit knowledge,<sup>41</sup>

The "images of man" which are expressed, explicitly or implicitly, in the "research programmes" of the social scientist, the institutional fabric of societies and in philosophical and theological anthropology all emerge from and give expression to some part of the tacit foundation of human awareness.<sup>42</sup>

Behind the social scientist's quest for understanding, and even behind that of the natural scientist,<sup>43</sup> lies the fundamental question, "What is man?" The formulations in which the natural scientist attempts to answer this question themselves arise from the ubiquitous yet elusive common-sense awareness of the human condition. Emil Brunner describes this "characteristic wisdom of the man in the street" in the following way:

It is aware of man's freedom and also of man's bondage; of the higher element in man and also of his pitiful need; of the unity of his personality and also of the contradiction it contains. It is aware of man's eternal destiny, and yet also that man dies, and that all his life is in some way determined by the fact of death, and tends toward death...It is aware of the peculiar character of each individual, and also of the common element which binds all individuals together. This 'wisdom' knows all these things, but it cannot be grasped at any particular point. The more eagerly we try to seize it, the more elusive it becomes, this extraordinarily reflective, and yet at the same time superficial and incomplete kind of knowledge...Before and behind all scientific, philosophical and theological anthropology there lies this ordinary, universally human, naive, prereflective

## REVELATION AND HUMAN SELF-UNDERSTANDING

understanding of man, very variously interwoven, concealed, enriched and distorted by those other views, and yet independent of them.<sup>44</sup>

Science, philosophy and theology, Brunner believes, represent both a deepening and a distortion of this *sensus communis*. By means of systematic enquiry, the scientist, theologian or philosopher draws out and gives explicit expression to a particular aspect of common human understanding. But this very process introduces the risk of distortion through undue emphasis on one feature of a reality which is complex and paradoxical.<sup>45</sup>

"The problem of indicating the character of the human species," concluded Kant, "is quite insoluble."<sup>46</sup> The reasons he gave were, first, that since man is the only rational species, there is nothing to which he can be compared, and second, that because man is "his own final end", it is the species itself which determines its own character.<sup>47</sup> To this we may add a third reason, implicit in Kant's epistemology: man is the interpreter of the world, so who is there to interpret the interpreter? All philosophical systems remain open-ended. All must concede the insolubility of their fundamental question, the question of man. It is at this point that revelation becomes significant to philosophy. In relation to philosophy, the subject of revelation is man. Revelation is a potentially definitive hermeneutical baseline, a final solution to philosophy's fundamental problem. Revelation is decisive for human self-understanding in that it fills the gap left by philosophical systems. It offers a standpoint, not available within human experience, from which human experience may be definitively comprehended, an "image of man" to serve as the governing paradigm for the philosopher and for the social scientist.<sup>48</sup>

In revelation, then, knowledge of God and knowledge of man is given *together*. The revelation of the nature of God is at the same time a revelation of the reality of the human situation.<sup>49</sup> However, although potentially revelation provides a definitive hermeneutical baseline from which to begin the interpretation of human life, in practice it proves impossible to establish conclusively the nature of the "image of man" conveyed in revelation. Revelation is not itself

## REVELATION AND HUMAN SELF-UNDERSTANDING

theology. In order to be understood and communicated, revelation must be expressed in concepts, and thus give rise to theology. Theology, moreover, takes place within a social and conceptual framework, which includes as a basic component a shared vision of man in community, his character, significance and destiny.<sup>50</sup> Theology is the product of members of a given society, whose ability to appropriate the revelation will reflect the conditions of the society in which their intellectual formation has taken place.<sup>51</sup> The challenge of liberation theology to what are perceived as the effects of Western culture on European and Anglo-Saxon theology provides a contemporary illustration of the fact that theology is, in principle, incapable of entirely outgrowing the constraints of its cultural context.<sup>52</sup> As Brunner comments,

Even if revelation creates a new understanding, it does not create this without laying claim upon the natural understanding...Genuine theology is always a conversation between God and man in which the human partner in the conversation is not ignored, but, even though he is entirely receptive, he is *apprehended with his whole nature*.<sup>53</sup>

Not only does man remain a responsible subject in the process of revelation, but in this process the content of revelation becomes subject to the conditions of natural knowledge, including the possibility of error. It is a mistake for theologians to go beyond their own province by proclaiming as a divinely revealed truth what may be only an erroneous human conception of divine truth.<sup>54</sup> There is a hermeneutical movement within theology itself. While theology is a reflection of and attempt to understand what has been given by revelation, it includes within its province the enquiry into both the content and method of revelation. Revelation itself is a theological doctrine, the proper methods of whose articulation include the tools of philosophy.<sup>55</sup>

The distinction between revelation and theology is a reflection of that between tacit and explicit knowledge. While the doctrines of theology are explicit formulations of the faith, revelation itself is not explicitly but tacitly understood. The "images of man" which underlie the theoretical frameworks within which and by means of

## REVELATION AND HUMAN SELF-UNDERSTANDING

which men and women arrive at their understanding of the world and their own place in it exist at a tacit, pre-theoretical level. If revelation conveys a definitive understanding of the human condition, then it is to be appropriated not at the level of concepts but at that of man's pre-conceptual awareness of his identity. In revelation, God deals directly with the essential subject, the "I" behind the empirical self, the person behind the "persona", whose real nature is known only to God himself.<sup>56</sup> Revelation is a personal encounter, in which the initiative is that of the sovereign God. While from the point of view of philosophy the content of revelation is anthropological, the provision of a definitive image of man, from the point of view of theology its content is God. The understanding of the human condition which results from it is a reflection of what is revealed about the nature of God.<sup>57</sup>

## Notes

1. *Treatise*, p.4
2. *Anthropology*, p.183.
3. See my paper, "Theology or Social Science?", from which part of the material for this chapter is drawn.
4. The errors of positivism apply equally to a wider range of theories of science. See Hacking, *Scientific Revolutions*, p.1-2 for the characteristics of the "image of science" displaced by the revolution in philosophy of science inaugurated by T.S.Kuhn and others.
5. S.Toulmin, "The Concept of 'Stages' in Psychological Development", *Cognitive Development and Epistemology*, ed.T.Mischel, p.25-37. I.Barbour, *Issues in Science and Religion*, p.139,146-148, *Myths, Models and Paradigms*, p.94-98. N.R.Hanson, *Patterns of Discovery*, p.1-30, *Perception and Discovery*, p.59-198. See also J.Phillips, "Basic Beliefs".
6. Toulmin, *op.cit.*, p.26.
7. Hanson, *Patterns*, p.1-30.
8. Phillips, "Basic Beliefs".
9. Toulmin, "Does the Distinction Between Normal and Revolutionary Science Hold Water?", *Criticism and the Growth of Knowledge*, ed. I.Lakatos and A.Musgrave, p.39-48. T.S.Kuhn, *The Essential Tension*, p.225-239. See M.de Mey, *The Cognitive Paradigm*, p.173-226.
10. Kuhn's work, *The Structure of Scientific Revolutions*, published in 1962, caused considerable controversy, but its implications not only for science but for philosophy in general have been far-reaching. His initial statement, including his definition of "paradigm", has been modified and developed in the course of discussion. A volume of collected papers, *The Essential Tension*, gives a more subtle and considered version of his theory than the earlier statement. In this modified form, it has increasingly been accepted by scientists and philosophers of science. One of the features of Kuhn's theory is that it is an attempt to describe what scientists *actually* do, rather than what they *should* do. This means that, like Wittgenstein's philosophy, it "leaves everything the same". In practice, Kuhn points out, the conceptual framework of a given branch of science is simply taken for granted. Scientists get on with their work without actually reflecting philosophically on their paradigm. The use of the term "paradigm" to mean "shared

conceptual framework" is deliberately simplified. Two distinct meanings of the term are to be recognised:

1, Paradigm as achievement - an accepted way of solving a problem. Kuhn's title for this sense of the term is "exemplar". For further detail, see p.80f.

2, Paradigm as a set of shared values - which Kuhn calls the "disciplinary matrix". Hacking describes this sense as, "The methods, standards and generalisations shared by those trained to carry on the work that models itself on the paradigm as achievement. The social unit that transmits both kind of paradigm may be a small group of perhaps one hundred or so scientists who write or telephone each other, compose the textbooks, referee papers, and above all discriminate among problems that are posed for solution. (Hacking, *op.cit.*, p.2-3. See also Kuhn, "Second Thoughts",.)

11. Popper, *Logic*, sections 28 to 30, especially p.110-111.

12. Lakatos, "Falsification and the Methodology of Scientific Research Programmes", *Criticism*, p.116-165; M.Masterman, "The Nature of a Paradigm", *ibid.*, p.76-85. Lakatos understands his proposal as a modification of Popper's theory and an alternative to Kuhn. The main reason for this position appears to be his wish to exclude the intersubjective context of scientific research as irrelevant. Like Popper, he still believes psychological considerations to be antithetical to logical analysis. His aim is to explain the process of theory formation and development entirely in logical terms without recourse to psychological explanation. In the course of the discussion of learning in chapters 2 to 4 of this thesis, it is hoped to demonstrate that the idea of a clear separation between logic and psychology, such as both Popper and Lakatos attempt to maintain, is untenable. The logical and psychological features of the work of the scientist are correlative. Masterman demonstrates in her article that many of the key features of Lakatos' "research programmes" are also features of Kuhn's "paradigms". A paradigm, she concludes, is a "crude analogy" of finite extensibility. Like Lakatos' research programme, it extends itself by "intuitive inference" and fails under the weight of accumulated anomalies when pushed too far. According to Hacking (*op.cit.*, p.142) the parallel between Kuhn's paradigms and Lakatos' research programmes is now widely accepted.

## REVELATION AND HUMAN SELF-UNDERSTANDING

13. Lakatos' is implicitly a theory of scientific "progress". The implication of his view is that science progresses under its own impetus towards increasingly adequate descriptions of the real world. It is also closely related to Kant's epistemology. The "real world" is empirically real, in that it discloses itself to our senses, but transcendently ideal, in that it can never be said to be finally known except through the analogy of a scientist's model. If the points made in the previous footnote are correct, the same can also be said of Kuhn's theory.

14. For further development of this argument, and particularly its implications for philosophy, see below, p.46-52.

15. See Hilgard and Bower, *Learning*, for summaries of the major behaviourist theories. See Howe, *Learning*, for an account of the status of behaviourism in mainstream psychology today. Howe admits the need for widening the behaviourist approach and dropping some of the more hard-line behaviourist tenets, such as the refusal to allow meaning to descriptions of "mental events". But he shows no sign of recognising the fundamental shift in philosophical and epistemological standpoint necessitated by such an admission. (*op.cit.*, p.27-63)

16. See C.Taylor, *Explanation*, in the case of behaviourism.

17. Hobbes, *Leviathan*, part I; T.Mischel, *Human Action*, p.5f.

18. Hume, *Enquiry*, p.14.

19. Charles Taylor, *Explanation*, demonstrates that Humean empiricism is the unexamined philosophical foundation of behaviourism.

20. Mill, *System*, p.844-860, 875-878. See also Hume, *Treatise*, p.4-8. Mill refers, in his treatment, to the positivism of Auguste Comte.

21. Kant, *Anthropology*, p.9.

22. The creation of the perceiver's psychological environment or world-view will be dealt with in detail in chapters 2 and 3.

23. See below, p.66-67, 148-152, for discussion of agency and subjectivity.

24. The breakdown of logical empiricism now threatens the distinction between the natural and the social sciences in a new way. Whereas previously the tendency was for social scientists to attempt to conform to the positivist ideal of science, with the discovery of the hermeneutical element in the natural sciences, the distinction appears to collapse from the opposite side. As Charles Taylor puts it, "Old-guard Diltheyans, their shoulders hunched from years-long resistance against the encroaching pressure of positivist natural science, suddenly pitch forward on their faces as all opposition ceases to the reign of universal hermeneutics." ("Understanding", p.26) Under the influence of Polanyi, Kuhn and others, scientists

## REVELATION AND HUMAN SELF-UNDERSTANDING

may now recognise themselves as participants for whom commitment and consensus are indispensable. But unlike the social world, the natural world is not a participant in this sense. It does not generate meanings of its own, which are internal to the enquiry. The hermeneutical features of natural science can and may be "bracketed", or left out of account for the purposes of experiment. See note 10 above.

25. Schutz, "Theory Formation", p.6. See also Winch, *Idea*, p.83-86. Winch argues that the "scientific" study of society requires the imposition of a paradigm by which to explain the regularities involved in the events under investigation and their relation to each other. This paradigm is the product of a given society. In other words, the "objective" study of society takes society for granted. This point is closely related to the study of ideology. There, however, the emphasis seems to be upon the limitations imposed upon the scientist by the ideology within which he works. In the hermeneutical approach to social science, the emphasis is on the opportunity offered by the encounter between societies for the transcending of ideology.

26. See the *Encyclopedia of Philosophy*, vol 1-2, p.405

27. Weber, *Theory*, p.87f. See also *Interpretation*, p.77-89 and p.28f of the "Introduction" by J.E.T.Eldridge; also R.Aron, "The Logic of the Social Sciences", in Wrong, *Weber*, p.77-89.

28. See below, p.113f., on *verstehen*.

29. Schutz, "Theory Formation"; Ryan, *Philosophy*, p.127-170; Shotter, *Selfhood*, p.3-50; See also Harre and Secord, *Explanation*, esp.p.1-27.

30. The relationship between social science and philosophy is thus a close one. Winch has even suggested that social science is little different from philosophy, consisting of the conceptual examination of "forms of life". This claim is balanced by the position implicit in Berger and Luckman's *Social Construction of Reality*, that philosophy is, in fact sociology. Both aspects of social science, the conceptual and the empirical, need to be held in tension.

See Ryan, *Social Sciences*, p.127-170 for an account of the status of the social sciences.

31. See, for example, Bandura, "Behaviour Theory"; Sampson, "Paradigms"; Sampson, "Ideology"; G.A.Miller, "Human Welfare"; Shotter, *Images of Man*.

32. Schlenker, *Impression Management*, p.9.

33. Barber and Legge, *Perception*.

34. C.Taylor, "Interpretation", p.182,193.

35. See further p.146-152 below.

36. For R.C.Miller, for example, it is the fact that the learner is in relationship with God which guarantees the legitimacy of the theological approach. Theology provides the learner's authentic self-understanding, a sinner in need of reconciliation. Theology defines the dynamic of the "I-Thou" situation in which the learner is involved. Theology specifies the need for teaching techniques to be relationship-centred. (*Theory*, p.156-164)

For J.M.Lee, on the other hand, it is the learner as learner which is the relevant anthropology for religious instruction, and an understanding of how the learner learns is not to be found within the province of theology. "Religion," he maintains, "is learned according to the way the learner learns and not after the manner of its own existence." (*Flow*, p.58) Religious instruction is to be person-rather than content-centred.

John Westerhoff believes that the metaphors of "production" and "growth" implicit in the "schooling" approach to education need to be challenged. The methods of curriculum development, involving stated objectives, the choice and organisation of learning experiences and evaluation of their outcome, have sufficient truth behind them, he believes, to warrant their use, but they are insufficient for the education of *persons*. A better model for religious education is the *pilgrimage*, in which the religious educator plays the role of fellow-pilgrim as well as guide. (*Faithful Church*, p.298)

37. Calvin, *Institutes*, I,i,1.

38. See Dreyfus, "Holism and Hermeneutics", and the examples quoted there.

39. Polanyi, *Tacit Dimension*, p.4.

40. Stace, "Unreasoned Beliefs", gives an extensive list of such beliefs.

41. Polanyi, "Logic", p.7; *Knowing and Being*, p.144.

42. A distinction is to be made between "tacit knowledge" in a broad sense as knowledge derived from experience and used to provide a framework for comprehension in new learning, and the much narrower sense used here, in speaking about those foundational elements in human cognition which, although operative only in experience, can not be said to be derived from experience. These elements constitute a particular, highly significant, type of tacit knowledge. It is elements of this kind to which Kant drew attention in proposing his concept of the synthetic *a priori*, although Kant's own list of such foundational categories was far too extensive. Pylyshyn, in a very interesting article, "Computation and Cognition", refers to such elements as "functional architecture". In terms of the computing analogy, they constitute the basic programme, without which no other

## REVELATION AND HUMAN SELF-UNDERSTANDING

programme can be made to work. It is difficult to be certain about exactly which elements of tacit knowledge belong in this narrower class.

43. Polanyi, *Study of Man*.

44. Brunner, *Man in Revolt*, p.46-47.

45. *ibid.*, p.47f. It is to be noted that this passage is taken from the introduction to a *Christian* anthropology. In some respects, therefore, it anticipates the conclusion of the argument. However, the connection between Brunner's description of common-sense anthropology, Polanyi's concept of tacit knowledge and the idea of "images of man" as fundamental to the human sciences should be noted.

46. Kant, *Anthropology*, p.183.

47. *ibid.*, p.3f., 183f.

48. The possible implication of this position, namely that theology become a kind of universal science is noted by Brunner in an Appendix to *Man in Revolt*, p.544f. In order to avoid this implication, Brunner uses his argument of the varying degree of relevant Christian influence over various subjects. There is no distinctly Christian mathematics. This is a science whose correct development lies within the capacity of the natural man. But the nearer one comes to the centre of personality, the greater the distortion of natural human understanding, and the greater the relevance of theology. See also *Revelation and Reason*, p.383. This argument is different from the one used in the text, but related to it. The centre of tacit knowledge, it is argued, is the personality, while mathematics is the science most capable of complete explicit expression.

49. One of the main problems about the relationship between the knowledge of God and of man in revelation is the problem of authority. Is revelation to be its own authority or is it to be validated by means of existing human knowledge, the power of reason? If the former, the part played by human knowledge in its reception appears to be minimal. If the latter, then the authority by which revelation is received is that by which it is validated, namely human reason, and the concept of authoritative revelation becomes impossible. Positions in the debate tend to be polarised. Reinhold Niebuhr, for example, argues,

Religious faith cannot be simply subordinated to reason or made to stand under its judgement...When this is done, the reason which asks the question whether the God of religious faith is plausible has

## REVELATION AND HUMAN SELF-UNDERSTANDING

already implied a negative answer to the question, because it has made itself God, and naturally cannot tolerate another,

(*Nature and Destiny of Man*, vol.1,p.165-166)

The principle proponent of this position is Karl Barth, who writes,

God's revelation has its reality and truth wholly and in every respect... within itself. Only by denying it can we wish to ascribe it to a higher or deeper ground... The adoption of revelation from the vantage of such a ground, different from it and presumably superior to it... can only be achieved by denying revelation.

(*Dogmatics*, I/1, p.350)

What is denied in the position taken in this thesis is the either/or nature of Barth's argument. If revelation is to come to man and be appropriated by him it cannot be allowed that its truth be *wholly and in every respect* within itself. There must be some aspect of its truth corresponding to the human ability to understand it. Again, it is incorrect to suppose that "some other ground" than revelation from which it can be understood is necessarily superior to it. Precisely the opposite is being argued here, namely that revelation supplies what is lacking in that other ground. On Barth's position, see further notes 55 and 57 below.

The opposite position, that "revelation" is to be understood in terms of human capacity has been taken to be an implication of the highly subtle position of Schleiermacher. He rejected the idea that revelation could be understood as doctrinal, that is as given to the understanding, for the reason given above, namely that if revelation can be understood in cognitive terms there can be nothing supernatural about it. The ability to know God, he believed, was a natural human capacity, but a capacity not of man's thinking nature, but of *feeling*.

"God," he argued, "is given to us in feeling in an original way; and if we speak of an original revelation of God to man and in man, the meaning will always be just this, that along with the absolute dependence which characterises not only man but all temporal existence, there is given to man also the immediate self-consciousness of it, which becomes a consciousness of God."

(*Christian Faith*, 54,p.17-18)

However, Schleiermacher did allow that in Jesus Christ God had done something decisive which stood outside outside the chain of historical causation. "Revelation", he said, could be used to refer to the "originality" of the fact which begins religious communication. Since our awareness of God is related not to

## REVELATION AND HUMAN SELF-UNDERSTANDING

our thinking but to our "feeling" capacity, however, the impression of Jesus is not cognitive, but that of "A being who works upon us directly as a distinctive existence by means of his total impression on us," (*Christian Faith*, §10, p.50)

For those theologians who deny the propriety of understanding Jesus' life or any other divine action as a supernatural intervention into what they take to be a closed continuum of cause and effect, this latter part of Schleiermacher's position is abandoned and revelation is reduced to "religious receptivity". See, for example, Wiles, "Revelation".

50. Although the knowledge of God is given from beyond theology, it is appropriated within the "complex situation involving our cognition of the world around us and of ourselves along with it," (Torrance, *Theological Science*, p.32)

51. See below, in particular p.89-90, for the pattern of assimilation and accommodation characteristic of human learning. If revelation is received in ways appropriate to the normal human processes of understanding, then this pattern applies also to the understanding of revelation.

52. Gutierrez, *Liberation*, esp.p.1-14; Segundo, *Liberation*.

53. Brunner, *Revelation and Reason*, p.15-16. It is doubtful if the recipient of revelation can be said to be "entirely receptive" in every sense. It will be argued, not only that the appropriation of revelation does not involve the suspension of human autonomy, but also that the recipient is in some sense active in its understanding. See note 49 above.

54. Brunner, *Man in Revolt*, p.70.

55. This position was strenuously resisted by Karl Barth. Barth believed that theology was based solely on revelation, which provided all the tools needed for its own understanding and articulation. To bring philosophical analysis to the task of theology, he argued, is to look for rules by which to fit the Church and Christianity into some broader and more inclusive overall scheme.

The possibility of this solution stands or falls with the answer to the question whether there really is a nexus of being superior to the being of the Church, and consequently a nexus of scientific problems superior to dogmatics. (*Dogmatics*, I,1,p.38)

Barth expresses the conventional, positivist views of his time on the status of science. The methods of science, he wrote, consist of observation and inferences. Exact science, when it avoids philosophising and laying down a "world view", is in fact "pure knowledge". (*Dogmatics*, III,2, p.12) Barth believed that science, being empirically based, is capable of pursuing its object independent of philosophy, or

## REVELATION AND HUMAN SELF-UNDERSTANDING

"speculation". In relation to anthropology, he separates the empirical study of man in nature from philosophical or "speculative" anthropology, discerning no connection between them. (*Dogmatics*, III.2,p.21-26) While scientific anthropology pursues its course independent of philosophy and without threatening theology, speculative anthropology is the enemy of theology, whose only source is revelation. The effect of revelation is not to reform human speculation but to replace it. Theology has no conception of itself as knowledge in common with the world. Theology "cannot think of itself as a link in an ordered cosmos, but only as a stop-gap in a disordered cosmos." (*Dogmatics*, I.1,p.8)

This concept of the relationship between philosophy, science and theology, which underlies his theology, is one of the most significant differences between Barth and his contemporary, Emil Brunner. Unlike Barth, Brunner accepts the interdependence, which we have demonstrated, between philosophy and science. As attempts to describe the way things are, philosophical statements contain an implicit metaphysical commitment. They must, then, be capable of being earthed in experience by supplying hypotheses which can be put to the test. This "principle of empirical criticism" applies equally to theological statements, even though they originate with revelation. Even as statements of faith, they must be capable of application to experience. (*Man in Revolt*, p.60-63) Theology, then, stands in the same relation to science as does philosophy. The difference is that the images of man which it brings to the criticism of scientific research originate with revelation.

56, Paul Tournier writes, "The personage I put on in ordinary life is no longer of any avail to me; God does not stop at the *personage* - he goes straight to the person." *Meaning of Persons*, p.167. For the distinction between the "I" and the empirical self, see below, p.130-131, 146-148, 164. For the nature of revelation as addressed to the person, see p.159-160, 174-176.

Thus, although definitive, in that it consists of a definite content, the Person of Jesus Christ, revelation is not propositional. To be propositional, it would need to consist of *explicit* information. Rather, it is argued here, revelation is given at the tacit level.

57. It is, therefore, correct to maintain, with Barth, not only that revelation is something that only God can do, whose only condition is his grace, but also that for the person in receipt of revelation it constitutes a regrounding of one's subjectivity. Knowledge of an object, argues Barth, changes the knower. It makes him a responsible witness to the truth of that object. (*Dogmatics*, I.1, p.188) In

## REVELATION AND HUMAN SELF-UNDERSTANDING

knowing, the truth of the object, "becomes a determination of the existence of the man who has knowledge." Thus, "By the experience of God's Word, which is possible for men on the presupposition of its reality, we understand this determination of their existence as men by God's Word," (*ibid.*, p.198-199) The knowledge of God differs from that of ordinary objects in that God is unique,

When man enters into that uniting and distinguishing relationship to an object, his subjectivity is opened up to an objectivity and he is grounded and determined anew. But in faith the same thing happens quite differently. This difference consists in the difference and uniqueness of God as its object...This knowledge is a special knowledge, distinct from the knowledge of all other objects, outstanding in the range of all knowledge. (*Dogmatics*, II.), p.14-15)

This difference consists chiefly in the fact that God cannot become an object for us in the same way as other objects. God is always and only Subject. Man cannot enter into a relationship with God by his own volition. It is God who creates the relationship with man. Thus, Barth argues, the possibility of revelation depends upon its prior actuality and not on anything to do with the conditions of human life.

All this can be accepted, however, without affecting the main argument of this section that there exists a "point of contact", to use Brunner's rather unsatisfactory phrase, at which revelation may enter what Barth calls the "nexus" of philosophical thought. This point of contact is the inexpressible tacit awareness of human being. Nothing about this observation guarantees that there must actually be a revelation to resolve the question of the nature of mankind. The fact that there is a revelation, and that in that revelation God himself is known, is entirely due to God's grace.

## CHAPTER TWO

### Interaction: Mechanism and Meaning

Now the sum of all that is merely objective we will henceforth call *nature*, confining the term to its passive and material sense, as comprising all the phaenomena by which its existence is made known to us. On the other hand, the sum of all that is subjective we may comprehend in the name of the *self* or *intelligence*. Both conceptions are in necessary antithesis. Intelligence is conceived of as exclusively representative, nature as exclusively represented; the one as conscious, the other as without consciousness. Now in all acts of positive knowledge there is required a reciprocal concurrence of both, namely the conscious being and of that which is itself unconscious. Our problem is to explain this concurrence, its possibility and its necessity.

*Samuel Taylor Coleridge*<sup>1</sup>

Perception is where cognition and reality meet,

*Ulric Neisser*<sup>2</sup>

## 1. The Complementary Roles of Philosophy and Psychology

The aim of the next three chapters is to present an account of the way human beings learn. The study of learning immediately presents a problem of orientation. It is necessary at the outset to establish the relationship between the two main components of such an undertaking, the psychology of learning and the philosophy of knowledge. Learning involves a wide range of psychological changes, the acquisition of new skills, the development of changed attitudes towards oneself and others, a change in the capacity to experience and tolerate emotion, the attainment of new social skills, and so on. The investigation of learning can be said, therefore, to lie principally within the field of psychology. All types of learning, however, involve the cognitive component, the acquisition, retention, reorganisation and deployment of knowledge. The study of knowledge involves conceptual questions which fall principally within the field of philosophy. The study of learning, therefore, cannot take place independently of philosophical epistemology.

According to the school of educational theory currently most influential in this country, a clear distinction is to be made between the respective fields of philosophy and psychology.<sup>3</sup> While psychological study may concentrate, for example on those factors which contribute to the effectiveness of learning, the conceptual analysis of the acquisition of knowledge falls within the field of philosophical epistemology.<sup>4</sup> Knowledge, argues Paul Hirst, may be divided into a number of publicly specifiable "forms of understanding", achieved over the course of generations. Each form of understanding has its own distinctive logic. Learning, he argues, consists of initiation in the understanding of the different types of logical relationships appropriate to the various forms of understanding. These logical relationships which characterise the structure of the various forms of understanding are to be distinguished from the psychological processes by which the learner arrives at his or her understanding.<sup>5</sup>

The distinction between the logical structure of a particular "form of knowledge" and the psychological processes involved in the acquisition of such knowledge reflects a particular type of epistemology, one based on the belief in the solidity, even objectivity of knowledge based on secure logical relationships, in contrast to the shifting sands of psychological association. The search for objective foundations has given rise in philosophy to what Stephen Toulmin calls the "City of Truth" metaphor.<sup>6</sup> According to empiricist epistemology, the foundations of the city of truth consist of certain, objective, empirical observations. The architectural principles by which the superstructure is erected are those of logical analysis. Empirical observation and logical analysis are, moreover, independent of one another. Philosophical or scientific certainty is to be achieved by a combination of value-free observation and logically guaranteed inference. These principles are those which W.V.O. Quine calls the "two dogmas" of empiricism:

"Modern empiricism," he writes, "has been conditioned in large part by two dogmas. One is a belief in some fundamental cleavage between truths which are *analytic*, or grounded in meanings independently of matters of fact, and truths which are *synthetic*, or grounded in fact. The other dogma is *reductionism*; the belief that each meaningful statement is equivalent to some logical construct upon terms which refer to immediate experience."<sup>7</sup>

Quine concludes that these dogmas are, in fact, unsupportable. Analytic and synthetic truths cannot be conveniently isolated from one another for the purposes of analysis. There are, as demonstrated in the previous chapter, no observations of fact "uncontaminated" by theoretical assumptions. Empirical observation takes place in the context of assumptions based on previous experience and learning. New knowledge is inevitably assimilated, at least in part, to the structure of existing knowledge and belief.<sup>8</sup> An epistemology based on the "two dogmas" fails to take into account the contribution of the subject in perception, comprehension and learning. Its effect is to separate fact and value, external "reality" from the contribution of the perceiver. Knowledge is to conform to the logical structure of objective facts.

The result is to reduce *meaning* to *description*, and thereby to confuse the two. It involves the assumption that any meaningful statement can be expressed as an empirically verifiable description of some state of affairs.<sup>9</sup>

The best modern example of this confusion is logical positivism, as expressed in the "verification principle", according to which the meaning of a statement is equivalent to the method of its verification. According to this principle, all meaning other than that of analytical statements is descriptive or factual, and the criteria for meaningfulness in any given realm of discourse is the extent to which its statements can be translated into simple descriptions capable of empirical and/or logical verification. All types of discourse in which this is impossible, including aesthetics, morals and, the main target, metaphysics, are thereby rendered meaningless. Logical positivism is thus a modern attempt to put into practice the programme advocated by Hume on the last page of his *Enquiry Concerning the Human Understanding*:

If we take in our hand any volume; of divinity or school metaphysics, for instance; let us ask, *Does it contain any abstract reasoning concerning quantity or number?* No, *Does it contain any experimental reasoning concerning matter of fact or existence?* No, Commit it then to the flames; for it can contain nothing but sophistry and illusion,<sup>10</sup>

Beyond these basic principles of classical empiricism, however, the logical positivists were able to achieve no very substantial agreement. In particular, they were unable to agree on what constituted observation, on what status was to be assigned to "sense-data". They also failed to agree on the form of the logically pure language in which verified empirical statements should be expressed, so that there were almost as many proposals for a logical language as there were philosophers in the field.

In practice, it is not difficult to see that an epistemology which depends on the interpretation of such things as "sense-data"

involves implicit psychological assumptions. The same is true for a large number of philosophers. Descartes' *Meditations* is a particularly good example. His epistemology is dependent on the analysis of data received by the senses, on considerations as to the reliability of the sense organs and, notoriously, on his conceptualisation of "mental substance" as separate from and interacting with "physical substance". Locke, Hume, Berkeley, Kant, Price and Ayer, to name but a few, all make use of psychological generalisations. Such expressions as *ideas*, *impressions*, *imagination*, *sensible manifold*, *sense data* and so on are all empirical, psychological terms. Even some modern philosophers, however, fail to recognise the need for adequate experimental grounding of these basic expressions of empirical reference.

Take, for example, A.J.Ayer's *Foundations of Empirical Knowledge*. The context of his use of empirical examples is the development of the "argument from illusion", whose conclusion is that what we perceive may be unreliable or illusory. The inference Ayer draws is that we do not perceive "material objects" but only "sense data". "Sense data", he maintains, are the basic level of perception, the "foundation of empirical knowledge", and, as such, they are "incorrigible", in contrast to material objects, whose existence is simply an inference from the experience of sense data. The examples Ayer gives in support of the argument from illusion include the experience of mirages or hallucinations, the perception of a coin which, although circular, appears elliptical for some observers, and that of a straight stick which appears to bend when put into water, due to refraction. Ayer's assumption is that the use of these examples is unproblematical, that they can all be taken at "face value". He fails to see the need for a process of interpretation involving careful empirical investigation before they can be used to provide evidence for his theory. "When I look at a straight stick, which is refracted in water and so appears crooked," he writes, "my experience is qualitatively the same as if I were looking at a stick that really was crooked." This example, like all the others Ayer uses, is anecdotal. He has performed no tests to establish the regularity of or the conditions for the experiences he describes. Nor does he bother to define in terms which could be

experimentally verified what is meant by the phrase "qualitatively the same". Moreover, there are several factors which Ayer has failed to take into consideration. The fact that along with the "bent stick" we also see the surface of the water makes a significant difference. Most people are familiar with the effect from past experience, and past experience, with or without a theoretical understanding of refraction, prevents virtually every intelligent observer from interpreting their perception as a "bent stick".<sup>11</sup>

It is important for the philosopher to be aware of the psychological generalisations underlying his assumptions. There can be no *a priori* self-validating theories independent of the need for confirmation by reference to empirical evidence. If the tendency to ignore the philosophical dimension leads to the impoverishment of psychology, the tendency of philosophy to become an independent, self-generating area of enquiry is equally misconceived. Typical of this approach is the "logical behaviourism" of Gilbert Ryle's influential *Concept of Mind*. Ryle attempts to derive the principles of behaviourism by deduction from *a priori* premises with virtually no empirical reference. The actual scientific practice of behaviourism is barely considered. Interestingly enough, Ryle's book is in turn virtually ignored by behaviourist psychologists, most of whom are unaware or dismissive of the philosophical foundations of their own empirical work.<sup>12</sup> Rather than admit an interdependence between empirical and conceptual questions, between the work of philosophy and psychology, many philosophers insist on a one-way logical dependence of the study of "learning" upon that of "knowledge". The result is a tendency to ignore the implications of the results of psychological research and a resistance to any "psychological idiom" in philosophy.<sup>13</sup>

It is equally important, however, that psychologists recognise the philosophical premises implicit in their own work. The question as to the relation of philosophy and psychology is a particular instance of the more general question dealt with in the previous chapter, the relation between conceptual and empirical factors in scientific

enquiry. Underlying any field of empirical investigation are a number of philosophical assumptions, which, although they may be taken for granted for the purposes of a particular experiment or series of experiments, critically affect the way in which the results of those experiments are interpreted. Until recently, the situation in the various branches of psychology has suffered from a general failure to appreciate this aspect of its work. Psychology has been, and remains to a large extent, divided, with little cross-fertilisation between separate areas of research or awareness of the possible implications of even the basic theoretical assumptions of one branch for those of another.<sup>14</sup> In cognitive psychology, for example, Ulric Neisser criticises the lack of "ecological validity", or contact with everyday reality, of the theoretical approaches prevailing up to the mid-1970s. Even more important, he noted the lack of awareness of the need for a new philosophical anthropology to undergird the picture of man as information-processor generated by the growth of the cognitive orientation.<sup>15</sup> Conceptual progress is hindered, however, by the continuing influence of positivism. Like behaviourism, cognitive science tends to be dominated by the assumptions of Humean empiricism, both in its methodology and its epistemological assumptions. "Information" tends to be treated as if it consisted of individual, self-defining units, and mental processes understood as effects of environmental causes.<sup>16</sup> Even in social psychology, it is rational processes which constitute the preferred explanation even for the factors behind the development and maintenance of attitudes or relationships.<sup>17</sup>

The "cognitive orientation" is a means of approaching the study of knowledge in which due regard is paid to both dimensions, the empirical and the analytical, the psychological and the philosophical. It is a development in the field of cognitive science from the information processing approach, based on the recognition of the necessity of a fundamental change in the basic paradigm required by the role of "mental events" expressed in "internal structures". Marc de Mey summarises as follows:

## INTERACTION: MECHANISM AND MEANING

The central point of the cognitive view is that *any* such *information processing*, whether perceptual (such as perceiving an object) or symbolic (such as understanding a sentence) is *mediated* by a *system of categories or concepts* which for the information processor constitutes a *representation or model* of his world,<sup>18</sup>

De Mey traces four stages in the development of the cognitive view. The first is the monadic, in which information is treated, in the manner of behaviourism and its underlying philosophy, as composed of separate, self-defining entities. The next is the structural stage, in which the attempt is made to define more complex structures. In the third, the contextual stage, it is recognised that meaning depends on the provision of a suitable context. In the "cognitive" stage, however, the "context" for the interpretation of new information is recognised to be the whole of the processor's existing knowledge, or world model.<sup>19</sup>

The fact that scientific observation and experimentation takes place within a framework of shared assumptions is a reflection of the universally applicable conditions of perception. There is no "bird's eye view", from which it is possible to develop a system of concepts which match the pattern of reality. Our conceptual world forms a lens through which we observe the "real" world and there is no possibility of guaranteed "objective" knowledge. It is possible to distinguish between the empirical and the conceptual aspects of the study of learning and knowledge, but not to treat them independently. Empirical observation of the psychological processes by means of which knowledge is acquired takes place within a framework of philosophical assumptions. This framework, in its turn, includes an implicit psychology of perception. Framework and observation interpret and correct one another. In the course of the investigation as a whole there is a dialectical succession of priority between the two aspects of the study, the empirical and the conceptual.<sup>20</sup> Neither philosophy nor psychology is capable unaided of supplying a solution. They are complementary and correlative aspects of a single field, the study of cognition.

## 2.The Contribution of the Knower

The study of learning involves a number of cognitive processes, including perception, recognition, comprehension and memory. While all these processes are related, it is perception which is fundamental. Perception is the point of contact between the mind and the outside world. As Ulric Neisser puts it, "Perception is where cognition and reality meet."<sup>21</sup>

In psychology, the study of perception consistently demonstrates the active contribution of the perceiver to play a crucial and integral role. In the words of Sir Frederic Bartlett, perception can be shown to involve an "effort after meaning".<sup>22</sup> In his experiments, Bartlett made use of a piece of equipment known as a tachistoscope. This is used to present subjects in an experiment with a variety of images for small fractions of a second. Usually, the exposure is repeated until the subject recognises the image correctly, and the number of exposures required noted. The tachistoscope parallels the condition of uncertainty of which we are sometimes aware in everyday life, in situations such as hallucination or the "bent stick" in water, and is thus particularly well suited to demonstrate the way subjects react to this kind of uncertainty.

In his experiments, Bartlett found a consistent tendency by subjects to assimilate the information presented to their own expectations or preconceptions. A particular pattern of lines so readily evoked an aeroplane that practically all the participants overlooked the "error" in the accompanying words: "An Airoplaxe", reporting them as "An Aeroplane". The only subject who did not make this error was a man who failed to recognise the drawing as representational in any way. A picture of a notice board by a gate suggested to 80% of observers the words, "Trespassers Will Be Prosecuted", although in practice the lettering was too small to be distinguishable. This almost universal tendency for subjects to assign meaning to an image on the basis of a global impression or salient detail and to reconstruct the image on the basis of the meaning thus

assigned, Bartlett called the "effort after meaning". He concluded that, "a great amount of what is said to be perceived is in fact inferred," that the report of a perception is, in fact, most likely to be an inferential construction.

The "effort after meaning" is also regularly observed in studies in which subjects are presented with words and letters. If the image consists of about 25 random letters, only four or five are usually recalled after a short exposure. If the 25 letters are arranged into four or five words, what is recalled is usually two or three words, or about 10-15 letters in total. If 25 letters are presented in the form of a meaningful phrase then it is likely that the whole phrase will be successfully recalled. The explanation for these results is that subjects bring to the experimental task a large amount of "tacit knowledge", remembered information previously derived from experience and organised for the comprehension of new experience. In the case of this experiment, it is the ability to read which enables participants to absorb more information from the meaningful presentations than from the random letters. The average printed page contains, in fact, an enormous amount of redundant information. The skill of effective reading consists of the ability to extract the important cues, the key words and sentences, and use these to reconstruct the sense of the rest.<sup>23</sup>

A similar situation has been observed in studies using chess players. De Groot and, following him, Chase and Simon discovered that the difference between a master, a good player and a beginner consists not in the ability of the better players to see further ahead nor to consider more possible moves. In fact, the masters frequently considered less moves. The difference in ability was not related to logical, deductive processes, but to perceptual familiarity. The only significant difference was found to be the ability of the master to reconstruct a given state of play from memory after an exposure of 5-10 seconds far more effectively than either the good player or the beginner. The explanation is analogous to Bartlett's "effort after meaning". For the master, the game situation is more easily reducible

to a coherent pattern of meaning on the basis of the vastly superior amount of tacit, stored information derived from his experience. The information presented in the form of a chessboard is the same but the master both perceives and is able to recall more than the good player, who is in turn more effective than the beginner. This conclusion is strengthened by the fact that in randomly arranged, meaningless situations all three performed equally well.<sup>24</sup>

One of the most instructive experiments in this field was performed as long ago as 1949 by Jerome Bruner and Leo Postman.<sup>25</sup> Bruner and Postman's experiment demonstrates the importance of "set" or expectancy on perception. They demonstrated not only that observers are attentive, actively looking for meaning, but also that observers typically resist the contradiction of their expectations, though not to the point of irrationality. The experiment involved the presentation, using a tachistoscope, of a number of playing cards, included amongst which were a number of "trick" cards, a black 3 of hearts, a black 4 of hearts, a red 2 of spades, a red 6 of spades, a black Ace of diamonds and a red 6 of clubs. Following the usual procedure in such experiments, subjects were presented with the cards one by one in exposures of increasing duration until they correctly recognised each one. Not surprisingly, it took much longer, that is more exposures of longer duration, for subjects to recognise the trick cards.

The most interesting outcome of this experiment, however, is the different forms of failure to recognise the trick cards exhibited. One common form was a dominance reaction in which either colour or, more often, shape was dominant. Faced with a black 4 of hearts, subjects would report seeing a 4 of spades or, more often a (red) 4 of hearts. Another type of failure was the compromise reaction. A red 6 of spades was reported, for example, as purple, brown, black on a reddish card, rusty colour or "black but with redness somewhere".

It is a frequent experience that on coming across a mis-spelled word one often struggles to remember the correct spelling. This type of recognition failure, disruption, was also exhibited in the

## INTERACTION: MECHANISM AND MEANING

experiment. Not only did some subjects fail to recognise the anomalous cards, but their expectations of normality were thrown into disarray. One subject was reported as saying, "I can't make the suit out, whatever it is. It didn't even look like a card that time. I don't know what colour it is now or even whether it's a spade or a heart. I'm not even sure now what a spade looks like!" When correct recognition did take place, it was usually quite sudden. Previous expectations were overturned and replaced by a new "set" in which anomalous cards were allowed for and consequently recognised much more quickly.

The conclusion to be drawn from this and the other experiments is that perception is an active as well as a passive process. There is an "effort after meaning" by which observers utilise tacit knowledge derived from previous experience in order to comprehend the present. As Bruner and Postman put it, "Perceptual organisation is powerfully determined by expectations built upon past commerce with the environment."<sup>26</sup> Where these expectations are violated, perception is hindered.<sup>27</sup>

### 3.A Theoretical Framework: Interaction

While Hume and, following him, the empiricists understood perception largely as the passive contemplation or reception of information from the environment, the experiments described in the previous section have shown the importance of the active element in perception. The problem is how these two apparently incompatible viewpoints can be reconciled. As Neisser puts it,

There is a dialectical contradiction between these two requirements: we cannot perceive *unless* we anticipate, but we must not see *only* what we anticipate,<sup>29</sup>

How is the relation between the active and the passive elements in perception to be understood?

Let us begin by viewing perception at its most basic level, namely as a physical process. Human beings are dependent for the use of their five senses on physical mechanisms, the eyes, ears, nose, tongue and skin. In addition to these, there is a "sixth sense" of great importance to perception, kinesthetic sense, or the ability to monitor the position of the body. The use of this sense in interpreting perceptual data is familiar from the experience of travelling in a lift, or when on a train slowly leaving a station, it is the platform or adjacent train which appears to be moving until the sensation of acceleration is registered.

To take sight as an example of the physical aspect of perception, information is received by the eye in the form of light waves. However, the eye is not a kind of video-camera, passively recording a constantly moving picture. The task of the eye is as an encoder. What it does is to convert information in the form of light waves into neural signals to be relayed to the brain. These signals are not sent back in a constant stream, but in a series of impulses, and they are then recoded by the brain to give the impression of an image.<sup>29</sup>

The main problem for the mechanisms of perception is the problem of limited capacity. This does not refer to the limitations of memory. Of the capacity of long-term memory there is no known limit. The bottleneck in capacity occurs in the area of short-term or working memory. There is a limit to the amount of incoming information to which we can actually attend at any given time. An example of the use of short-term or working memory is when dialling an unfamiliar telephone number. Most people can remember a number long enough to dial it, but often the number is forgotten straight away and the need to redial means we have to look it up once more (an inconvenience catered for in the most recent models of telephone). This is because longer-term storage requires extra effort.<sup>30</sup> It has been recognised for some time that the capacity of working memory is limited to about seven items, but that these items can be of any size. For example, an isolated letter or digit makes up a single unit of memory, but so also does a word, a phrase, a sentence even a whole narrative. A unit of memory may be of any size so long as it contains within itself the key to recovering all the information included in it.<sup>31</sup>

The organs of perception are being continually bombarded with information, far too much to make sense of at any one time. In the face of this potential information overload, the brain is forced to be selective, to attend to one thing and not another. To further assist in the task of comprehension, the brain is able to maximise its capacity by "chunking" or "unitising", storing information in the largest possible meaningful units, in order to comprehend as much as possible of the outside world. What the brain is looking for in incoming information is meaning, readily comprehensible units, not the uninterpreted "red patch", but the bus, or even the No.57 bus.

Let us now return to the consideration of perception from the psychological point of view, with the physical mechanisms in the background. Perception involves two types of information processing, data-driven and concept-driven processing. Data-driven processing is what is involved in receiving the incoming information. This is essentially an automatic physical and, to that extent, passive process.

## INTERACTION: MECHANISM AND MEANING

Light strikes the eye and causes a certain neural reaction. The information acts as a stimulus, to which the organs of perception and the brain respond. Concept-driven processing involves the deployment of tacit knowledge in such a way as to generate a "set" or expectation. In other words, it is essentially active, involving the "effort after meaning". Incoming information acts not as a stimulus but as a cue, to which the brain responds by offering an interpretation. A complete act of perception must involve both active and passive, both data-driven and concept-driven processes. Perception is not simply a process of passive absorption; people frequently fail actually to see what is there, as the playing card experiment makes abundantly clear. But neither is perception simply active. This would result in a sort of "controlled hallucination" in which perception was governed entirely by expectation. What is required is a balance between data-driven and concept-driven processing, in which perceptual meaning is neither exclusively derived from external stimuli nor totally supplied by the subject but arises as a result of interaction between the active and passive side of the process.<sup>32</sup>

As long ago as 1951, Jerome Bruner proposed that perception be understood as a process of "hypothesis" and confirmation. His theory was intended to "make room for the perceiver", that is, to allow for the active contribution of the perceiver and to account for individual differences, the fact that very rarely do individuals perceive the same situation alike. Bruner's theory explained perception as the outcome of three steps:

1. The preformed "set" of the observer, governed by a series of task demands. This generates a "hypothesis", or broad range of expectations about what is likely to be perceived.
2. Input of information, understood not as stimulus, but as cue.
3. The checking, confirmation or modification of the original hypothesis, or expectation.<sup>33</sup>

Bruner's "hypothesis" is a determining tendency or cognitive predisposition, a generalised state of readiness for a range of responses, related to a broad range of expectations. The hypothesis

will vary in "strength" according to a number of factors, including the frequency of past confirmation, the number of possible alternatives and the possible consequences for other strong expectations and for the particular goals of the perceiver of its being upset. The stronger the hypothesis, the less the information needed to confirm it. It requires less mental readjustment to recognise a bus coming round the street corner than, for example, an elephant. The role of tacit knowledge in perception is thus as a generator of expectations, of readiness to respond in certain ways. But it is the environment itself which is the final arbiter of the validity of the perceptual hypothesis.

More recently, Ulric Neisser, in a departure from his earlier views, has put forward a theory of perception very similar to Bruner's.<sup>34</sup> Neisser uses the term "schema", following Bartlett, who in turn derived it from the work of Sir Henry Head. Bartlett describes schemata in the following way:

"Schema" refers to an active organisation of past reactions, or of past experiences, which must always be supposed to be operating in any well-adapted organic response. That is, whenever there is any order or regularity of behaviour, a particular response is possible only because it is related to other similar responses which have been serially organised, yet which operate, not simply as individual members coming one after another, but as a unitary mass. Determination by schemata is the most fundamental of all the ways in which we can be influenced by reactions and experiences which occurred in the past. All incoming impulses of a certain kind, or mode, go together to build up an active, organised setting; visual, auditory, various types of cutaneous impulses and the like, at a relatively low level; all the experiences connected by a common interest; in sport, in literature, history, art, science, philosophy, and so on, on a higher level.<sup>35</sup>

The function of schemata in Neisser's theory is similar to that of Bruner's hypotheses. They serve as predispositions, or organised expectations, directing exploration of the environment and modified by the information received. The schema directs exploration of the

## INTERACTION: MECHANISM AND MEANING

environment, samples the information available and is modified in turn in order to respond to what is found.

Tacit knowledge is to be understood as organised in the form of "schemata". A schema provides the setting or context for the comprehension of incoming information. It is, therefore, as the playing card experiment nicely demonstrates, predisposed toward certain expectations, based on the regularity of previous experience in a given area. The "settings" which form the content of a given schema are extremely varied. Bartlett speaks of a number of levels, from types of perceptual organisation to common interests, such as history or art. A schema might represent a situation or task, such as one's route to work, or a visit to the dentist. Earlier, we spoke of the ability to read as a unit of tacit knowledge, a schema, and this suggests that the ability to speak a given language is also to be understood as a schema. In any particular situation, a number of schemata are likely to be found operating together. One's route to work, for example, may involve the skill of driving a car and the ability to read the road signs as well as the knowledge of how to get there. In addition, one may be listening to the car radio, deploying one's schemata for the understanding of music, drama or news events, and performing the other tasks, semi-automatically. Finally, the theory of interaction makes it clear that schemata are continually modified. One may think of the normal individual as continuously looking for information to make a given schema more effective. All experience is potentially a lesson for the future. It becomes so by incorporation into the active settings by which the past is organised and the present comprehended.

One of the most important features of the process of perception so described is its intentional nature. The deployment of schemata is, for the most part, entirely unconscious. It becomes conscious in cases of ambiguity, such as the attempt to make sense of a Gestalt figure, or in cases of consciously directed attention. But the unconscious processes of the "perceptual cycle" are nevertheless intentionally deployed, toward the extraction of potential meaning from the

## INTERACTION: MECHANISM AND MEANING

situation and the achievement of the goals of stability, coherence and comprehensibility of the environment.<sup>36</sup> These unconscious processes take place within a matrix of more or less conscious orientations, the choices of goal and plans for action by which we live our lives. The interaction of data-driven and concept-driven processes reflects the ongoing dynamic interaction between organism and environment, person and world.

If perception is to be understood as interaction, learning must be understood in the same way. Another important feature of schemata is that they are learned. Perception does not take place in isolation from other cognitive processes. Interaction supplies a broad framework in which the tension between active and passive elements in perception is resolved. It does so by linking perception with all the other cognitive processes, including recognition, comprehension and memory, in such a way as to make them all part of one continuous process of response to the environment, the outcome of which is learning. Interaction requires intentionality as the origin of the active contribution of the perceiver. This is to say that perception and learning are to be understood in the context of the realisation of particular goals and purposes.

#### 4. Meaning and Intentionality

The theory of interaction proposed here involves two assumptions:

1. The cognitive processes involved in learning, including perception, recognition, comprehension and memory, are dependent in some way on physical mechanisms, those of the brain and the organs of perception.

2. The way these processes are employed demonstrates purpose or intentionality, whether conscious or unconscious.

In this section, it will be necessary to consider further the relationship between intentionality and physical processes.

The first point to be made is that intentionality can be effectively modelled by physical processes. The simplest model of an intentional world-view, that is an arrangement of tacit knowledge geared to a specific purpose, is a thermostat. This is to say that a thermostat exhibits "behaviour" based on the interpretation of specific information. The minimum requirements for the physical modelling of purposive behaviour are:

1. a transducer, to convert the particular information required, in this case the temperature of the environment, into a signal (ie. a model of perception).

2. short-term memory, the ability to hold the information on which the response is to be based.

3. long-term memory, which processes the information held in short-term memory.

4. output - "communication" or "behaviour".

The thermostat is designed to "perceive" the temperature of its environment and to represent this information in terms of the state of the mechanism. Its long-term memory consists of the programme, which specifies the temperature at which it is to operate, and its "behaviour" is to switch on and off at the appropriate state of the mechanism. A thermostat, therefore, exhibits purpose, namely to keep its surroundings at a given temperature, mediated through a world-model represented by the physical mechanism.<sup>37</sup>

## INTERACTION: MECHANISM AND MEANING

If the thermostat is an example of a simple physical model of a world-view, the computer is probably the most sophisticated, and capable of comparison with the human mind. Artificial Intelligence, the modelling by computer of mental processes, in which the focus of attention is on the performance of the computer, has led rapidly to Cognitive Science, in which computational models are used to understand human cognitive functioning. It is at this point that the problem of the relationship of intentionality to physical systems, the old mind-brain problem, occurs in its most acute form. Can intentionality be completely explained in terms of physical processes? Can the mind be "reduced" to the status of epiphenomenon of the working of the brain?

Like the computer, the mind is a processor of information. And, like the computer, the information to be processed exists in two forms, or can be described at two levels. At one level, "information" describes the physical state of the mechanism - the pattern of neurons in the brain or the state of the electrical connections in the computer. At another level the information exists in the form of symbols which represent elements of the outside world. In psychology, the two levels are brain and mind; in computing they are the levels of "hardware" and "software". The relationship of brain and mind is thus analogous to that between hardware and software in computing. This relation is also analogous to that between description and meaning. Information fed into the machine is a description of something. At the software level, it is a symbolic description of the same kind as an ordinary language. But if the software may be said to represent that of which it is a description, so also may the state of the machine. The electrical state of the machine also constitutes a "model" of the state of affairs described in the programme.<sup>38</sup> The question, "Is the phenomenon of the mind to be understood in terms of the physical functioning of the brain?" can also be expressed, "Is there a level of meaning expressed in the software or semantic level of a computer which cannot be reduced to the terms of the physical syntax of the machine?"<sup>39</sup>

It was the programme of logical positivism which attempted to reduce meaning to description by proposing the idea of an ideal language in which the logical relation between states of affairs would be exactly reflected. The effect of the success of this programme would have been to reduce the experience of meaning to grammatical syntax in much the same way as it is proposed, by the proponents of "strong AI", to reduce it to the physical relations of the computer. The conclusion already reached is that this programme has failed.<sup>40</sup> It is, ironically, Wittgenstein's *Tractatus Logico-Philosophicus*, one of the chief inspirations of logical positivism, which demonstrates its impossibility.

In the *Tractatus*, Wittgenstein put forward his "picture theory" of meaning, in which he maintained that language is to be understood as picturing reality. Language is made up either of "logical atoms" which have a one-to-one correspondence with the reality they describe or else, as in the normal state of affairs, of complex statements, which need to be analysed into logical atoms. Thus, the *Tractatus* was a perfect expression of Quine's "two dogmas". The logical atoms were intended to refer to immediate experience, and the relationships between them to picture the logical structure of reality. Despite the enthusiasm with which the *Tractatus* was received, however, Wittgenstein soon began to have his doubts about it. He was, in fact, unable to produce a single example of a logical atom, but perhaps more important than this practical failure to implement the programme, the *Tractatus* contains within it the seeds of its own destruction. On the last page of the book, Wittgenstein writes:

Anyone who understands my propositions recognises them as nonsensical, when he has used them - as steps - to climb up beyond them. (He must, so to speak, throw away the ladder after he has climbed up it.) He must transcend these propositions and then he will see the world aright.<sup>41</sup>

What Wittgenstein means by these enigmatic statements is that although it is possible to assume that language pictures reality, it is impossible for language to picture this assumption, to picture the relation between language and reality. His statements are meaningless,

## INTERACTION: MECHANISM AND MEANING

therefore, because, like morals and metaphysics, they all fall within the area which it is impossible to express in the ideal language. It has to be conceded that there remains in the province of meaning a tacit element, namely the relation between propositions and the reality to which they refer, which it is impossible to reduce to explicit description.

There is in the experience of meaning more than can be represented in language or symbolic relations. To return to the comparison with the computer, the ability to understand the programme requires an element of tacit knowledge, the experience of the relation between symbols and the reality to which they refer, which is itself irreducible to explicit description. On the analogy of this argument, therefore, intention is more than can be exhausted by the working of a physical system. Intentionality may be *dependent* on a physical mechanism or organism for its expression, but it is not *reducible* to the working of that mechanism or organism. The mind may be dependent on the brain, as the computer's software is dependent for its correct functioning on the set-up of the hardware. Moreover, the failure of the underlying physical system in some way will impair the ability to function meaningfully. But the characteristic of the psychological level over against the physical is intentional representation, the reference of symbols to reality. The relationship of representation to reality is an element of tacit knowledge, irreducible to explicit description.

The computer model of mental functioning is valid, therefore, up to a point. It is valid to the extent that both computers and human beings exhibit two levels of information processing, the syntactic, dependent on physical causation, and the semantic or representational. But in neither case can the two levels be simply equated or the one reduced to the other.<sup>42</sup> Human intentionality is not reducible to its physical base. To take an example once again from Wittgenstein, this

time from his second philosophy, in the *Philosophical Investigations* he asks,

If I raise my arm, what is left over if I subtract the fact that my hand went up?<sup>43</sup>

The answer is, "The intention to raise my arm." "The fact that my arm goes up" is a description of movement which has a variety of possible causes. But "I raise my arm" is the description of an action. In action, the intention to perform replaces the causal *explanation*. Whereas movement may be explained by means of a *chain of past causes*, the explanation for an action is the purpose in view; it lies in the realm of meaning. If asked, "What are you doing?", a person normally responds in terms not of the movements he is carrying out, but of the purpose involved, not, "I am moving my arm," but, "I am hailing a taxi." "What are you doing?" becomes, "What are you trying to achieve?" As Stuart Hampshire points out, it is characteristic of agents that we always know what we are doing. Even if immobile, we still direct our thoughts.<sup>44</sup>

To say that cognitive processes are intentional, therefore, is to maintain that they cannot be adequately described in the language of physical causation appropriate to physical systems. The language appropriate to the description of cognitive processes is the language of action and intention. The understanding of cognitive processes is dependent, therefore, on the concept of agency, a concept which will be treated at a later stage.<sup>45</sup>

## Notes

1. *Biographia Literaria*, p.145
  2. *Cognition and Reality*, p.9.
  3. See, for example, Peters (ed), *Concept*; Hirst and Peters (eds), *Logic*; Peters (ed), *Philosophy*.
  4. D.W.Hamlyn, "Human Learning", *Concept of Education*, ed.Peters, p.178f., reprinted in *Perception, Learning and the Self*.
  5. Paul Hirst, "Liberal Education and the Nature of Knowledge", *Philosophical Analysis*, ed.Archambault, p.97f.,108.
  6. Toulmin, *Knowing and Acting*, p.82-90.
  7. Quine, "Two Dogmas of Empiricism", *From a Logical Point of View*, p.20.
  8. See below, p.89-90, for explanation of the terms, "assimilation" and "accommodation".
  9. Danto, *Analytical Philosophy of Knowledge*, p.159f.
  10. Hume, *Enquiry*, p.165.
  11. Ayer, *Foundations*, p.3-9. See Austin, *Sense and Sensibilia*, p.48-50, Hirst, *Problems*, p.36-37,48-51 for criticism of Ayer.
  12. Taylor, *Explanation*.
  13. G.E.M.Anscombe in Brown (ed.) *Philosophy of Psychology*; Strawson, *The Bounds of Sense*, p.19 (objecting to Kant).
- Among philosophers who have given their attention to the activities of psychologists and their implications for philosophy is D.W.Hamlyn. But Hamlyn operates within the traditional framework in maintaining a rigid distinction between the work of the psychologist and that of the philosopher. See, for example, "The Logical and Psychological Aspects of Learning", in Peters, *Concept*, p.24-43, reprinted in *Perception, Learning and the Self*, p.71-90. See also his exchange with Stephen Toulmin on this subject in "Epistemology and Conceptual Development", *Cognitive Development and Epistemology*, ed.T.Mischel, p.6f. reprinted in *Perception, Learning and the Self*, p.107-131. The relevant article of Toulmin's is "The Concept of 'Stages' in Psychological Development", in T.Mischel, *op.cit.*
14. See, for example, W.Mischel, "Reconceptualisation",
  15. Neisser, *op.cit.*, p.1-9.
  16. Taylor, "What is involved in a genetic epistemology?" *Cognitive Development*, ed.T.Mischel, p.399,401.

17. Fishbein and Ajzen, *Attitudes*, Schlenker, *Impression Management*, Clark and Woll, "Stereotype Biases", Weldon and Malpass, "Biassed Communications". See below, p.93-95, on attribution studies,

18. De Mey, *Cognitive Paradigm*, p.4.

19. De Mey also traces his four stages in the history of philosophy of science;

    Monadic stage; classical positivism

    Structural stage; logical positivism

    Contextual stage; interpretation of scientific progress in terms of sociological factors, ideology etc.

    Cognitive stage; the approach from the study of the characteristics of paradigms.

Kuhn's contribution is sometimes mistakenly confused, especially by his opponents, with the contextual stage. The approach to knowledge from the point of view of ideology is also a feature of this stage, and is superceded, though not discredited, by the cognitive orientation.

20. Toulmin, "Concept of 'Stages'".

21. Neisser, *loc.cit.*,

22. Bartlett, *Remembering*, p.14-33.

23. F.Smith, *Understanding Reading*, p.28-31.

24. Chase and Simon, "The Mind's Eye in Chess".

25. Bruner and Postman, "On the Perception of Incongruity: A Paradigm."

26. *ibid.*, p.82.

27. The playing card experiment nicely illustrates the distinction, drawn by Wittgenstein, between "seeing" and "seeing as" (*Philosophical Investigations* II,xI, p.193-228). Bare perception, without the element of interpretation, Wittgenstein believed to be very much the exception to the general rule. Even those things which appear too obvious to require to be "taken as" are nevertheless the objects of interpretation. Everything is what it is in a context of meaningful description. These contexts are inevitably public. Wittgenstein calls them, "forms of life". These, he appeared to believe, constitute the given. They have to be taken for granted as the context in which everything is perceived "as" something, that is, given a meaning.

28. Neisser, *op.cit.*, p.43.

29. F.Smith, *op.cit.*, p.25-36.

30. Lovell, *Adult Learning*, p.23

31. G.A.Miller, *The Psychology of Communication*, p.1-13,14f.

32. This point was made by Samuel Taylor Coleridge, by means of an observation on the behaviour of pond-skaters, in his *Biographia Literaria*:

Most of my readers will have observed a small water-insect on the surface of rivulets which throws a cinque-spotted shadow fringed with prismatic colours on the sunny bottom of the brook; and will have noticed how the little animal wins its way up against the stream, by alternate pulses of active and passive motion, now resisting the current, and now yielding to it...This is no unapt emblem of the mind's self-experience in the act of thinking, There are evidently two powers at work which relatively to each other are active and passive; and this is not possible without an intermediate faculty, which is at once both active and passive.

That faculty, whose task was to reconcile the requirements of activity and passivity, Coleridge believed was the *imagination*.

33. Bruner, "Personality Dynamics and the Process of Perceiving", *Perception: An Approach to Personality*, ed. Blake and Ramsey, p.121-147.

34. Neisser, *op.cit.*

35. Bartlett, *op.cit.*, p.201.

36. Hilgard, "The Role of Learning in Perception", Blake and Ramsey, *op.cit.*, p.103-106.

37. N.M.Amosov, *Modelling of Thinking and the Mind*, New York; Spartan, 1967.

38. Craik, *Nature of Explanation*, Craik's treatise constitutes the basis of "Strong AI", the aim of whose programme is to provide a complete description of mental functioning in terms of a physical model. Its achievement would, in the words of Margaret Boden, be equivalent to a total scientific explanation. ("The Computational Metaphor in Psychology", *Philosophical Problems*, ed.Bolton, p.113)

39. See Pylyshyn, "Computation and Cognition", p.111-169; Searle, "Minds, Brains and Programmes", p.417-457.

40. See above, p.48.

41. Wittgenstein, *Tractatus*, 6.54, p.74.

42. On computer modelling of the mind, see further; Boden, "Intentionality and Physical Systems"; "The Computational Metaphor in Psychology", *Philosophical Problems in Psychology*, ed. Bolton; Dreyfus, *What Computers Can't Do*; Dreyfus and Haugeland, "The Computer as a Mistaken Model of the Mind", *Philosophy of Psychology*, ed. Brown.

## INTERACTION: MECHANISM AND MEANING

43. Wittgenstein, *Philosophical Investigations*, I,621, p.161. The whole discussion begins at I,612.

44. Hampshire, *Thought and Action*, p.40f. See Swinburne, *Evolution*, p.85-102, for a description of action and its relation to intention and to causal relations. Acceptance of Swinburne's description of action and underlying "purposings", however, does not necessarily entail agreement with his position on the relation of mind and brain or, in Swinburne's terms, body and soul. Swinburne holds that "soul" is a category of (immaterial) substance. The view put forward below is that the foundation of human agency is the "spirit", which is a not in itself a substance, but a source of vitality or dynamism, a relational or dynamic category rather than one of substance. See below, p.155f.

45. Taylor, *Explanation*; Searle, "The Intentionality of Intention and Action", *Perspectives on Cognitive Science*, ed. Norman. See below, p.146f., for further discussion of the concept of agency.

## CHAPTER THREE

### Personal Knowledge

If understanding in general is to be viewed as the faculty of rules, judgement will be the faculty of subsuming under rules; that is, of distinguishing whether something does or does not stand under a given rule. General logic contains, and can contain, no rules for judgement. For since general logic abstracts from all content of knowledge; the sole task that remains to it is to give an analytical exposition of the form of knowledge [as expressed] in concepts, in judgements and in inferences, and so to obtain formal rules for all employment of understanding... And thus it appears that, though understanding is capable of being instructed, and of being equipped with rules, judgement is a peculiar talent which can be practised only, and cannot be taught. It is the specific quality of so-called mother-wit and its lack no school can make good...

A physician, a judge or a ruler may have at command many excellent pathological, legal or political rules, even to the degree that he may become a profound teacher of them, and yet, none the less, may easily stumble in their application. For although admirable in understanding, he may be wanting in natural power of judgement. He may comprehend the universal *in abstracto*, and yet not be able to distinguish whether a case *in concreto* comes under it. Or the error may be due to his not having received, through examples and actual practice, adequate training for this particular act of judgement. Sharpening of the judgement is indeed the one great benefit of examples. Correctness and precision of intellectual insight, on the other hand, they more usually somewhat impair... Examples are thus the go-cart of judgement; and those who are lacking in the natural talent can never dispense with them.

*Immanuel Kant*<sup>1</sup>

Understanding a sentence means understanding a language.

*Ludwig Wittgenstein*<sup>2</sup>

## 1.The Physical Basis of Tacit Knowledge

Learning is the outcome of a process of interaction between the individual and his environment. The information of all kinds with which the individual is constantly bombarded as a result of his transaction with the environment is comprehended by means of an interpretative setting in the form of "tacit knowledge", which is itself the result of accumulated experience. Tacit knowledge is divided into "schemata", of which there are a great variety, consisting of areas of knowledge which "belong together", such as interests, tasks or common situations. At the level of psychological process, therefore, "learning" always involves the modification of schemata. It is this process which is the subject of the present chapter.

Tacit knowledge may be understood at different levels or from different points of view, the physical, the psychological and the philosophical. Knowledge cannot be studied from a philosophical point of view without reference to the psychological processes by which it arises, and these psychological processes cannot be fully understood without reference to their physical base. It is necessary, then, to have in mind the physical basis of perception and knowledge. The term "schema", which Bartlett used to describe the way tacit knowledge is organised, was drawn from the work of Sir Henry Head, who used it to refer to a physical mechanism. Head was interested in certain types of brain damage. One important area of impairment he identified was the lack of an "ongoing postural model", or continuous awareness of bodily position. By contrast with certain brain damaged patients, Head was able to identify as an important function of the brain the maintenance of an ongoing model or representation of the current position of the body. Such a model was, of course, holistically or globally organised, consisting not of individual memory "traces", but of a single representation continuously modified by a process of feed-back. Head called this model a "schema". It forms an actively orientated organisation of past reactions organised to form a setting for present experience.<sup>3</sup>

Thought of in this way, the schema is a kind of continuously updated and highly flexible bodily memory. In an activity involving bodily skill, such as in a game of tennis, no two movements are exactly the same. Each backhand, forehand or overhead shot is a variation on a theme. Any particular game involves a large number of shots, no two exactly alike. The essence of a bodily skill, such as tennis, Bartlett believed, was the use of the body's ongoing postural model continually to update the awareness of the position of the body, coupled with the outwardly-directed intention to play the ball in a certain way. Although in the course of a practice session, it is possible to "work on" a shot by consciously paying attention to the coordination of the movements involved, during a game such movements are almost always unconscious, although intentionally directed. There is, therefore, in the performance of a skill, a considerable tacit element. This involves "knowledge" held by the body in the form of schemata, the content of which is incapable of reduction to explicit description.<sup>4</sup> Michael Polanyi gives several examples. In terms of explicit description, the ability to stay on a bicycle can be defined by a complicated mathematical formula. But it is quite unnecessary for the would-be bicycle rider to learn that formula. What is learned is the art of keeping one's balance. The knowledge represented explicitly by the formula is comprehended tacitly in quite a different way. By the same token, Polanyi argues, the knowledge of the expert chef is more than can be set down in a cookery book, learning to drive involves much more than simply reading the manual, and competence in scientific investigation is not reducible to the explicit analysis of justification.<sup>5</sup>

Bartlett's earlier work on the mechanisms of memory can fruitfully be compared with that of Polanyi. It was he who, in his book, *Personal Knowledge*, and many subsequent publications, drew attention to the important role of tacit knowledge. Polanyi proposed that perception be understood not as the passive contemplation of objects but as a motor skill. Significantly, he used the sense of touch, rather than sight, as paradigmatic for the understanding of perception as a whole. With touch, the active, exploratory role of the

perceiver is much more obvious than with sight or hearing. One example he frequently repeated was the use of a stick in the dark or by a blind man to feel one's way. The particulars of immediate sensation are the movements of the stick, but the user is interpreting these movements and the degree of resistance they indicate to identify the unseen features of the surrounding environment. Polanyi used the terms "proximal" and "distal" for the separate levels, contexts of meaning or objects of attention. The "distal" term is the object of exploration, the walls and floor of the surroundings. The "proximal" term is the particulars of the movements of the stick. The user's attention is directed "away" from the particulars of the "proximal" term towards their joint meaning given by the "distal" term. By means of this "from-to" structure of attention and inference, the particulars are integrated and given meaning by the object of attention. The stick becomes an extension of the user's body. The sensations conveyed by it become a part of tacit knowledge; they are assimilated to the structure of the sense of touch and used to comprehend the features of the surface in the same way as a hand might be used. The meaning of the particulars lies in what they jointly convey. To concentrate on the particulars of the proximal term is to lose sight of the distal term, and with it the meaning of the whole, in much the same way as a proof-reader ceases to read for the meaning of the text in order to concentrate on the details of the type.<sup>6</sup>

Tacit knowledge, therefore, has a physical basis. The body, says Polanyi, is the one thing of which we are never normally aware as an object.<sup>7</sup> In our knowledge of things, the body is always subject. The tacit clues integrated in perception are bodily clues. Just as the stick becomes an extension of the body, the whole apparatus of tacit knowledge is an extension of the perceptual skills of the body. As the body is "indwelt", says Polanyi, so, metaphorically, tacit knowledge is indwelt. It becomes a tool for interpreting experience and the ability to interpret experience is, like tacit knowledge, a skill. A skill has no sharply definable boundaries or limits. It is the capacity to deal with a relatively indefinite range of objects in a relatively

indefinite range of ways. The skills involved in knowing always involve more than can be reduced to description.

Tacit knowledge, then, is originally bodily knowledge. Memory arises from bodily feed-back mechanisms. Tacit knowledge is "indwelt" as the body is indwelt. The subject, which forms the fundamental element in tacit knowledge, is essentially the embodied subject. It may be that this provides a sufficient explanation of why such concepts as causation and substance, without being derivable from experience, are nevertheless present in all experience. We experience our bodies as substance and as causes. It is also, perhaps, the bodily nature of subjectivity which explains the priority of the global in perception and comprehension, the reason why it is the whole which is the primary level of meaning in any given context or situation, and the particulars are to be understood by means of their relation to the meaning of the whole. The body forms an original unity, integrating the diverse particulars of sensation into a single meaningful awareness of the present situation.<sup>2</sup>

Because we are embodied beings, the physical, psychological and philosophical aspects of knowledge are all inter-related. A schema is to be understood, therefore, in three different ways:

a) as a neural feed-back mechanism, for equipping an organism to respond discriminatingly to the environment.

b) as the mechanism of memory: it organises the past in such a way as to provide a framework for the comprehension of the present situation.

c) as the unit of tacit knowledge: which, as we shall see, is organised in a quite different way from the explicit knowledge with which we are familiar.

## 2. The Cognitive Domain: Exemplars

A schema is the basic unit of memory and of tacit knowledge. It is both the means by which knowledge resulting from past experience is stored and by which it is made available in the present for the comprehension of new experience. Within the cycle of interaction by which information is perceived, understood and remembered for future reference, schemata have a number of related functions.

1. A schema provides a conceptual framework to enable comprehension and thus the assimilation of new information.

In any given act of comprehension, there will usually be a number of schemata operating at once. In reading a book, for example, the activity of reading depends entirely on the schema for reading, the ability to extract meaning from print. This not inconsiderable achievement must operate entirely unconsciously so as not to get in the way of the real task, which is to understand the particular text. But assimilating the information in the text depends on *another* schema, that which expresses the reader's prior understanding of the subject area. If the area is entirely unfamiliar, the reader may begin by picking up information at random and endeavouring to make sense of it by the use of some other related area which he or she understands better. But quite early in the process the random pieces of information begin to acquire some shape of their own, a rudimentary understanding of the subject begins to form and a new schema is born. The schema then begins to provide an outline of the subject, and new information is assimilated to and helps to fill in the gaps in that outline.

2. A schema generates a series of anticipations or expectations which direct the understanding.

Most people notice that as they become more familiar with a subject, their speed of reading increases. The greater the familiarity of a given subject, the more efficient is our comprehension. This is because the schema, by providing a framework for comprehension, actually guides the search for new information. It closes off

alternatives which we grow to recognise are less likely. New information begins to become more "predictable". This is why a good writer must always clearly signal, by the way he introduces it, information which is novel, which disrupts or goes beyond the framework of understanding he expects of the reader.

The role of schemata in providing both a framework of understanding and an expectation of what is coming next is seen more clearly still in fiction. Take, for example, the following three sentences:

1. Mary heard the ice-cream van coming.
2. She remembered her pocket-money.
3. She rushed into the house.

The fact that these three sentences describe a comprehensible sequence of events is due to the role of schemata. These supply the facts which are required as essential background, that people like ice-cream, that ice-cream is bought with money and that money is often kept in houses.<sup>9</sup> In addition, we expect a story. We expect that the three sentences will have something to do with each other, and on the basis of this expectation we construct for ourselves a context which includes motives and feelings. If, in place of "ice-cream man" and "money", we were to read "teacher" and "homework", the motives and feelings supplied might be very different. What is true in the case of reading is also true in the comprehension of situations in life. Here too, experience must be assimilated to a pattern of meaning before it can make sense.

### 3. Schemata guide actions.

A visit to the dentist, for example, consists of a typical sequence of events. After a few visits, we construct a schema, which specifies the need to make an appointment, to check in a few minutes before the appointment is due, to wait in the waiting room, to bring something to read if we don't want to be bored, etc. The schema supplies rules for actions and decisions, such as "If it goes on hurting, contact the dentist". It also tells us the way the dentist is supposed to carry out his role - firmly but with sympathy without

being too apologetic, making light conversation but nothing too personal, and so on. In this way schemata enable us to cope with life by reducing its unpredictability and giving us a modicum of confidence and control of our own destiny - even in the dentist's chair!'<sup>o</sup>

Learning takes place whenever a schema is modified to take account of a new situation or of new aspects of an already familiar situation. Conversely, learning is to be understood as the modification of schemata, and it is something which is taking place all the time. The psychology of learning will be concerned, therefore, with the way in which schemata change. But before we can study the way schemata change, we need to know what they are like. The question at issue is the way knowledge is represented in the mind. A schema is a "data structure". If we want to know the form in which knowledge is stored, what knowledge "looks like" in its tacit form, then the answer is to be found in terms of the "structure" of schemata, the way in which specific items of information are related to one another within the overall schema.

Before embarking on the analysis of schemata, however, two distinctions must be made:

1. A distinction between the form in which knowledge is represented and the means by which it is processed. Tacit knowledge may be understood either as a product, by concentrating on the way it is organised, or as a process, by looking at the way it is used. In practice, this distinction is difficult to maintain, since schemata are actively organised data structures in which the means of processing is actually included in the way the knowledge is represented. However, it is important to bear the distinction in mind, so that, in concentrating on the form in which tacit knowledge is represented, we are not led to think of it as simply inert or reproductive.

2. A distinction between the cognitive or intellectual aspect of mental functioning and the affective or emotional domain. In the section to follow, we shall be concentrating on the purely cognitive aspect of knowledge representation, but this is not to forget the powerful effects of emotion on cognitive activity familiar from

everyday life. Later in the chapter, it will be necessary to examine in greater detail the affective domain and its relation with the cognitive.

3. A question which emerges from the consideration of these two distinctions is, What is the relationship between them? Is it possible to divide the cognitive and affective domains of intelligence along the same lines as the product and process aspects of cognitive functioning, to see the form of representation as the cognitive aspect and to identify affective factors supplying the motivation or mental drive for the various acts of processing, such as recall and comprehension? Such a simple division of function is to be avoided. Just as representation and processing go hand in hand, so we shall find both cognitive and affective elements on both sides of the distinction.

A major contribution to the understanding of the way knowledge is represented in the mind comes from the work of Thomas Kuhn.<sup>11</sup> Kuhn's central concern is the form of knowledge shared by a given scientific community. His starting point is the assumption that what defines a scientific community is the knowledge it holds in common. Conversely, any group which holds a given body of knowledge as common property is a scientific community. Such communities exist at different levels, from all scientists, down through all biologists or all physicists, to all nuclear physicists, to all working in a given specialist field, to a particular laboratory team. Kuhn's concern was to discover the form in which the knowledge which provides the community's cohesion and identity is held, and the way in which it is passed on to or learned by the novices or apprentices within the community.

Explicitly, this knowledge consists in a set of formalisms, or symbolic generalisations. Kuhn gives the example from physics,  $f=ma$ . Another famous example might be  $e=mc^2$ . Apprenticeship in the scientific community consists of the learning of these generalisations and their application to concrete scientific problems. But it was at this point that Kuhn found again and again that his students'

understanding broke down. Having read and understood the text-book's explanation of a new topic, they were, nevertheless, frequently unable to do the example problems at the end of the chapter. The theoretical relations were perfectly clear and coherent; it was their application to reality which was causing problems. A full understanding of the concept required more than the ability to manipulate certain formal rules. It required also the ability to apply these rules to experience, and this, Kuhn concluded, did not come automatically with the understanding of the rules. Complete comprehension includes the application of the tacit element in knowledge, the ability to "see" the way the rules relate to experience.<sup>12</sup>

What Kuhn found was that students were frequently able to do the problems they found so difficult, not by simply applying the rules they had learned, but by spotting a resemblance between the new problem and an old, familiar one. The problems given in textbooks, he pointed out, are frequently variations on a few standard examples or "exemplars". Students extend their knowledge, not simply by learning new symbolic generalisations, but by increasing their stock of exemplars. This is done by making connections between them, by observing points of similarity, and so by extending the old, familiar exemplar, by small steps, to cover new situations.

The student discovers, with or without the assistance of his instructor, a way to see his problem as *like* a problem he has already encountered. Having seen the resemblance, grasped the analogy between two or more distinct problems, he can interrelate symbols and attach them to nature in the ways that have proved effective before. The law-sketch, say  $f=ma$ , has functioned as a tool, informing the student what similarities to look for, signalling the gestalt in which the situation is to be seen. The resultant ability to see a variety of situations as like each other, as subjects for  $f=ma$  or some other symbolic generalization, is, I think, the main thing a student acquires by doing exemplary problems, whether with a pencil and paper or in a well-designed laboratory.<sup>13</sup>

Kuhn went on to describe instances of scientific progress which came about through the application of a generalisation originally worked

out in one area to a new area of investigation. He gave as an example the extension of the principle first worked out for the pendulum first to an inclined plane and then to problems in hydraulics.<sup>14</sup>

An "exemplar" is a form of knowledge in its own right. In fact, Kuhn hypothesises that the difference between scientific communities, particularly between closely related communities, is a difference of exemplars. Each community shares a slightly different set of working examples which comprises its basic working knowledge. The ability to acquire an exemplar, to add it to the stock of one's working knowledge, depends on the perception of a similarity relationship. The student learning to solve a novel problem is not so much applying explicit rules from symbolic generalisations to particular examples as looking for a familiar pattern in an otherwise jumbled or incoherent scene. The student's situation is similar to that of the radar operator, searching for a meaningful pattern of signals against a background of "noise". But the ability to perceive such similarity is independent of and prior to any explicit rules specifying similarity with respect to what. The analogical sensitivity, or ability to spot similar patterns is, Kuhn maintains, original, prior to explicit formalisation.

Having established the relevance of exemplars to scientific knowledge, Kuhn goes on to explore their place in everyday life.<sup>15</sup> A young child learns, by means of ostensive definition, how to group the objects of experience into categories, how to differentiate water-birds, for example, into the separate categories of ducks, geese, and swans. In the course of this learning, he acquires the expectation of being able to sort objects into "natural families", distinct categories separated from neighbouring families by a "perceptual space". He learns to expect to be able to place any new object in one of these families, and not to find a bird half-way between duck and swan. The existence of natural categories as a basic form of cognitive organisation has been confirmed by the work of Eleanor Rosch and associates. "Bird", for example, is a category with a large number of members, grouped into sub-categories. Some of these, she found, are

generally thought of as prototypical of the overall categories. In the case of birds, robins are usually recognised as prototypical, while chickens, although still classified as birds, are more peripheral members. While distinct, however, natural categories are also open-ended. Rosch found disagreement over whether pumpkins, for example, ought to be classified as fruits or leeches as insects.<sup>16</sup> In different cultures, there will be different "natural" distinctions. It is well known that Eskimoes recognise 15 different varieties of what we simply call "snow". Understood in this way, concepts are essentially "open-textured". They are not firmly bounded by explicit definition, but gradually and pragmatically organised by the accumulation of experience.

### 3. "Frames" and the Structure of Schemata

For the further development of these ideas, it is necessary to turn to the field of artificial intelligence, and in particular to a paper by Marvin Minsky in which he introduces the idea of "frames".<sup>17</sup> The particular subject of the paper is the use of computers to simulate visual processes, but its potential application is much wider, since what Minsky does is to propose a theoretical framework by which to understand the way the knowledge required for the simulation of vision is represented. What Minsky calls "frames" are comparable, therefore, with exemplars or schemata, and Minsky explicitly states that his work is to be seen as an attempt, in the tradition of both Kuhn and Bartlett, to investigate the representation of knowledge in memory.<sup>18</sup> A "frame" is a data structure which represents a given stereotyped situation. It includes certain types of information, in particular information about how the frame itself is to be used, expectations of what is likely to happen in a given situation and possible alternatives in the case of these expectations not being fulfilled.

The basis of the frame, in Minsky's terminology the "top level", is the information which is always true of the situation to which the frame relates, such that if the expectations specified by this information are not fulfilled, the frame is rejected and a new one sought. In a frame for a room, for example, walls, floor and a ceiling are mandatory. If they fail to appear, then the expectation, on opening a door, of finding a room on the other side must be revised: a coal-cellar, perhaps, or else a roof-garden. Similarly, if a restaurant is expected, but no chairs or tables found, expectation switches to something related, perhaps a bar or disco. Items at "lower levels", however, are not specified. A room may be decorated and furnished in a variety of different ways, according to its function. The frame for a room leaves such items to be filled in, and they may serve as clues to the function of the room in question. Conversely, expectations about the function of a room lead to expectations about the appropriate furniture and decor. Such expectations are termed "default

assignments", items of information about the setting or situation sketched in according to expectation rather than observation. We are reminded here of Bartlett's experiments on perception, in which he found subjects supplying missing information according to their sense of what was appropriate.<sup>19</sup> Having discovered the bathroom on the upstairs floor of a house, for example, we normally assume the other rooms to be bedrooms with fair degree of probability. However, other possibilities, based on past experience, are also supplied by the frame, with varying degrees of probability. A study may have a high probability, or a model railway layout, depending on what we know of the occupant; an indoor swimming-pool is highly unlikely.<sup>20</sup>

The main problem of human cognition is the complexity of the world. In order to understand at all, it is necessary to simplify, to reduce the enormous range of experience to easily manageable proportions, while remaining sufficiently flexible to deal effectively with the novel and unexpected. This is what frames achieve. A frame represents a portion of reality by stereotyping it, by specifying as many as possible of the constant relationships while leaving the less important elements to be filled in. The basic level is relatively inflexible with respect to the particulars and the relations which make it up. A children's party is thus differentiated from an office party, a street party or a house party. Each of these typical situations or settings then generates a series of expectations for the relevant variables, such as dress, food, entertainment, behaviour, number of participants and so on. Stereotyping is thus similar to "unitising".<sup>21</sup> The single unit which comprises a large amount of related information performs the same function as the frame. It is a device for bringing as much tacit knowledge as possible to the comprehension of a given situation, within the limits of the capacity of human intelligence. The frame thereby combines maximum flexibility with a stable overall framework.

The degree of stability required of one's overall mental world and the degree of flexibility one is able to tolerate will vary both from individual to individual and within the same individual in

different situations and at different periods of their life. In a similar way, default assignments are open to individual peculiarities. As Minsky observes,

Such default assignments would have subtle idiosyncratic influences on the paths an individual would tend to follow in making analogies, generalisations and judgements, especially when the exterior influences on such choices are weak. Properly chosen, such stereotypes could serve as a store-house of valuable heuristic plan-skeletons; badly selected, they could form paralysing collections of irrational biases.<sup>22</sup>

Like exemplars, it is clear that frames are a description of the cognitive aspect of what we began by calling schemata. Later papers in this tradition of AI take up Minsky's ideas under a variety of terminology, including "scripts" and "memory organisation packets", but the terminology of "schemata" occupies a central position.<sup>23</sup> Having dealt with Minsky's original paper in his own terminology, we will, therefore, revert to the use of "schema". As Minsky makes clear, frames or schemata are to be seen as parts of larger systems. Schemata are both capable of division into sub-schemata and themselves embed in larger dominating schemata.

For example, the schema GIVE has three basic elements:

GIVER, GIFT and RECIPIENT.

Each of these is a schema in itself.

Thus GIFT includes, as well as GIVE,

BUY and WRAPPING.

BUY includes, not only SHOP, or some variation specified in the schema, but also

MONEY,

with all the intricate ramifications associated with it.

The schemata, GIVE and GIFT are also controlled by the relevant dominating schema, such as

CHRISTMAS, BIRTHDAY or WEDDING.

At the same time, GIVE is a variety of action, and is therefore controlled by the more basic schema, DO. DO includes specific variables such as

CAUSE and EFFECT, PURPOSE and RESULT,

which must be specifically instantiated in the case of GIVE.<sup>24</sup> Schemata are thus related to one another in a variety of ways. It is not simply a case of a hierarchy of levels, or the embedding of one schema within another, GIFT, for example, within GIVE. The relations between schemata are multi-dimensional, these relations themselves specified by more abstract schemata.

A further problem is the mode of representation of knowledge by means of schemata. In giving schemata the titles, GIVE, GIFT and so on, it might seem to imply that knowledge is represented in verbal form. It has also been suggested that the mode of representation develops gradually through stages, from purely physical or "sensori-motor", through images to the final stage of symbolic representation.<sup>25</sup> Neither images nor symbols are sufficient by themselves, however. As Kant pointed out, the schema for a triangle requires a much richer conceptual representation than the image of a given triangle. It must be capable of generating the image of any possible triangle.<sup>26</sup> In the chessboard experiment, described in the previous chapter, the visual image was the same for all three participants, but one had a much richer conceptual representation of the meaningful games. Behind both pictorial and symbolic expression of knowledge is propositional or conceptual representation. What is meant here by "propositional" is not a given set of words but the conceptual content expressed by those words. This content might have been expressed by a variety of different sentences. Indeed, the composition of a sentence usually involves a considerable narrowing down of the potential meaning in the writer's or speaker's mind. It is possible to know in conceptual form "more than we can tell", more than we have the vocabulary to describe.<sup>27</sup> It has been shown that children learn their first language, not by learning a string of fixed word meanings, but by first conceptualising a given situation and learning subsequently to describe their pre-verbal conceptualisation in words.<sup>28</sup> This means that, rather than remaining fixed, word meanings change in the course of intellectual development. The learning of shared ranges of meaning attached to words becomes the most powerful way in which the child's intellect is socialised.<sup>29</sup> The representation of knowledge in the mind

is thus closer to a description of an image than to an image pure and simple, and it is this which accounts for the bewildering multi-dimensionality of the relations between schemata.

The representation of tacit knowledge is, therefore, entirely different from that of explicit knowledge. Explicit knowledge relies on images or verbal propositions, while tacit knowledge is represented at a more basic, pre-verbal, conceptual level. Kuhn wishes to make the point that the relation between categories or exemplars is one of similarity. Connections are made by means of the perception of similarity, prior to and independent of any formal rules to specify in what the similarity lies. First comes the analogical connection, then the formal rule expressing the relation. Tacit knowledge, therefore, does not require definitions or correspondence rules. Kuhn extends his example of the classification of ducks, geese and swans to make this point. To add to the cognitive representation of swans, as members of a natural family defined simply by experience, an explicit definition to the effect that "all swans are white" imposes rigidity on the category by placing a boundary around it to exclude anything not white. This rigidity adds nothing to the concept of "swan" which is not already achieved by the perceptual space between it and other types of birds, but it does make the category less useful as a heuristic device for future experience. The discovery of what appears to be a black swan forces the person for whom this rule is an integral part of the concept either to abandon "swan" as a natural category or to announce the discovery of a new family.<sup>30</sup>

The effect of such rules, which are a feature of explicit knowledge, is to distinguish between universals and particulars and between form and content. The definition sets up a universal ("white"), and adds a rule specifying its relation ("all") to the particular ("swans"). In contrast to the flexible, open-textured nature of tacit knowledge, explicit knowledge is formalised by the division of formal, universalisable properties, such as attributes, from the particular content to which these universals (contingently) apply. Tacit knowledge combines form and content in "natural" families, the

representation of whose relationships is necessarily multi-dimensional, to form the basis of a flexible "model" of reality. Although necessary for hypothetical construction, form and content are, therefore, abstractions from the underlying form of tacit knowledge, which is essentially concrete.

"The logic of tacit inference" is thus essentially different from that of explicit inference, because the form of representation of tacit knowledge is different from that of explicit knowledge.<sup>31</sup> We can express this in a number of ways:

1. Whereas explicit knowledge requires a distinction between form and content, universals and particulars, these distinctions do not apply to tacit knowledge.

2. Whereas explicit knowledge is static, tacit knowledge is always in process. Explicit knowledge is like a single frame from a film compared, not with the film, but with the real thing.

3. Tacit knowledge is multi-dimensional. As a comparison, when we use a word in a sentence, we qualify its meaning by its context. On its own, the word has not only several possible meanings, but infinite shades of meaning, nuances, personal associations etc. Explicit knowledge is like a dictionary definition, while tacit knowledge is like a person's accumulated experience of the use of the word.

The process of learning has two aspects, *assimilation* and *accommodation*.<sup>32</sup> In the course of interaction, new knowledge is assimilated to the structure of the schema. In order to learn something new, the learner must *do something* to the new knowledge. To be learned, knowledge must be changed by assimilation to the schemata of the learner. Not only is the new knowledge changed, however, but the schema is also changed in order to *accommodate* the new knowledge. Learning changes the learner. In general, there are three possible strategies for dealing with new information:

1. Ignore it. This may be the result of a conscious decision. The information may be deemed irrelevant or uninteresting. Or it may be too threatening - the emotional or social consequences of attending to the new information may be seen as too great.<sup>33</sup> Alternatively, the

information may be ignored because the individual is not capable of assimilating it. There exists no schema by which he or she could make sense of it. In this case, the information may not be noticed at all, or if noticed, passed over as beyond comprehension.

2. Assimilate it to the structure of existing schemata. In this case, there is the possibility of "distortion" or "falsification". But the criteria by which a judgement will be made as to whether distortion has taken place can only be relative to a generally accepted norm or expectation of what an individual should have learned in a given situation. Standards for small children's understanding regularly differ from those for adults, but even those for adults are governed only by social consensus, and individuals like artists frequently suggest new ways of looking at familiar things.

3. Accommodation to the perceived structure of the new information. That is to say that a new structure is created or an existing one modified in order to make way in the understanding for what is clearly seen as something new and previously not understood. This is, or is intended to be, the characteristic of formal learning, but all experienced educators appreciate that in practice accommodation is usually preceded by at least some degree of assimilation, which must be allowed for and if possible made use of.

In practice, all three strategies are likely to be found in differing proportions in any given learning event. In cases where the individual is in charge of his or her own learning, either because the learning is informal or participation in a formal situation voluntary, there is likely to be a decision, wholly or partly conscious, whether to ignore new information, assimilate it to previous understanding (thus ignoring whatever cannot be so assimilated) or to make the effort to accommodate and thus to change. Capacity to learn is thus determined to a large extent by the perceived need and the desire to learn, the factors that influence which are the subject of the next chapter.

#### 4. Analogy and the Affective Domain: Salience

The previous two sections have dealt with the "cognitive domain" of the understanding, the way knowledge is represented by means of schemata with respect to classification and logical inference. But in the course of this exploration, it has become apparent that the forms of classification and logical inference proper to tacit knowledge differ in fundamental respects from those familiar to philosophers and logicians from their studies of explicit knowledge. The "logic of tacit inference" must be understood to be fundamentally different from the logic of explicit inference. Explicit processes are, in fact, abstractions from the the concrete, tacit base of information processing. The "confirmation" of a perceptual "hypothesis" is a lightning-fast, semi-automatic and multi-dimensional process, unlike the more laboured, conscious process of explicit inference and conclusion. Polanyi suggests that the process of discovery is similar to the process of perception. The scientist who brings coherence to a set of experimental observations by proposing a hypothesis is performing an operation similar to the use of "hypotheses" in perception. He is proposing that a particular phenomenon be "seen" in a certain way.<sup>34</sup>

The logic of tacit inference, it has been suggested, is analogical. That is to say, it depends on the perception of similarity relationships. The relationships in a particular given piece of new information, or some of them, are perceived to be similar to those of a familiar, previously comprehended situation or piece of information, and on the basis of this similarity a schema is selected for the comprehension of the new information. Thus, the science student works out the answer to a problem in a new field by applying the principles learned in the solution of an old problem, the scientist learns how to predict and explain natural phenomena by seeing them as related to and thus *like* situations for which a formula or generalisation already exists, and people in everyday life learn to make sense of new situations by seeing them as variations on situations with which they are familiar.<sup>35</sup>

The similarity relationships by which tacit knowledge is related exist, we have insisted, prior to the formulation of a rule stating the respect in which two things may be said to be similar. First comes the analogical connection and only subsequently, if and when it proves to be necessary, is a rule sought to explain the similarity. As Kant pointed out, there can be no rules for subsuming under rules, which means that the faculty of judgement must be unanalysable, incapable of reduction to explicit analysis.<sup>36</sup> This, however, leaves a logical gap. The place of explicit rules of inference is taken by "intuitive fit", an unanalysable sense of the rightness of the analogical relationship perceived. It has frequently been noticed that the process of problem solution goes through a number of stages. First, the facts are absorbed and then follows a period of uncertainty in which possible solutions are tried out one by one. Frequently, all that results is perplexity, a sense of being "stumped". Often, however, the answer arrives in a "flash of inspiration" even at a time when the problem itself has not been under direct consideration, and with the solution comes a conviction, a "sense of rightness" about the proposed solution.<sup>37</sup>

The explanation for these familiar features of the process of tacit inference, the logical gap involved and its bridging by a sense of "intuitive fit", is to be found in the affective domain. What is proposed is that the information represented in schemata is not limited to the kind usually included in the "cognitive" domain. It has already been suggested that it includes also procedural rules for the way the schema itself may be used. Here we suggest that, in addition, schemata include information pertaining to the affective domain, specifically a judgement of the information's importance or salience.

The effects of "perceptual salience" on the judgements of children have been demonstrated in a series of experiments by Richard Odom and co-workers. A typical experiment involves the use of cards carrying a variety of designs with four key variables - the number, form and colour of the designs and the position of each design on the cards. Each subject in the experiment is pre-assessed for the readiness with

which they respond to each variable, in order to obtain a measure of the relative salience for each child of each of the variables. Odom found that in problems involving logical tasks performed with the cards, children systematically made less mistakes when the information relevant to the task involved variables which were more salient for them. In tasks where the information required for the solution involved a variable which was less salient for the child, mistakes were much more likely to occur. The ability of the child to concentrate on the task in hand was affected by the presence of salient but irrelevant information. On recall tasks related to logical problems, salient variables were typically remembered better than solution-relevant variables.<sup>38</sup>

Odom's contention is that it is not simply the ability to handle logical problems which develops with age, but the ability to process an increasing range of information. To demonstrate this, he ran an experiment in which an identical problem was given to 20 adults and 20 children. The problem, which was to be solved mentally from verbal instructions, included a sentence irrelevant to the correct solution suggesting the use of a judgement of probability. Of the 20 adults, 17 accepted the sentence as relevant to the solution, used a probability judgement and, as a result, gave the wrong answer. Of the children, for whom the concept of probability was not a salient one, 19 solved the problem correctly. In a further test with 10 children, the salience of the probability information was increased by rephrasing the irrelevant part of the problem, and 9 out of 10 gave the wrong answer. This supports the contention that it was not because the children did not understand probability that they avoided paying attention to the irrelevant sentence and so arrived at the right answer. It was because, since they were able to handle a more restricted range of information than the adults, the concept of probability was not as salient for them as it was for the adults.<sup>39</sup>

Perceptual salience is also a factor in another, widely differing area of psychological investigation, attribution studies. Such studies form part of the field of social perception, which is itself part of

the broader field of research into attitudes and attitude change. The topic under investigation in attribution studies is the attribution by experimental subjects of causal effectiveness to one or other actor in a role-played situation. They are asked to make a judgement as to which person is playing the dominant role in the conversation. The aim of the studies is to discover the factors which affect subjects' attribution of causality, as a guide to the factors which lie behind attitude and attitude change. The problem with perceptual salience is that, from a logical point of view, it is irrelevant. It is an unwelcome intrusive element in what the experimenter would otherwise like to understand as a judgement governed by rational considerations.

However, a series of studies have shown that perceptually salient features such as red hair, a loud shirt or a leg-brace worn by one of the actors in the role-played situation has a systematically distorting effect on perceptions of their role. Various attempts at the manipulation of other factors showed that salience effects are not an isolated aberration, but a regular part of every such situation. The problem, then, is to explain them. A "cognitive" explanation would accept that salience is a part of the way information is represented. It is incorporated in the schema the subjects use to make their judgements of causal effectiveness, and this can only be because it is accepted as relevant by the schema. Experimenters unwilling to accept this conclusion must suppose that only logically relevant information is included in the schema but that the salience effect is a feature of the situation, which systematically interferes the "rational" operation of making a judgement.

Initial supposition that salience is a "top-of-the-head" phenomenon, characteristic of judgement under pressure, was shown to be doubtful when salience effects refused to disappear under a variety of different conditions. Nor were salience effects to be explained by differential amounts of attention, as measured by observations of eye movements. Although the salient actor did attract a disproportionate amount of subjects' visual attention, judgements of causality were unrelated to the relative amounts of attention given to each actor. A

third possibility is that the influence of salience is mediated by the relative ease of recall of perceptually salient information. However, in circumstances in which less salient information is also recalled, the salience effect persists. A modification of this argument proposes that because visual information is relatively more salient, visually presented information is exaggerated at the recall stage, at which the attribution of causality is justified. But in order to have this effect, visually presented information must be represented by a schema. Unless the schema is capable of representing this information as "more salient", it must fail to register or to be recalled.<sup>40</sup>

Despite a natural unwillingness on the part of the investigators to allow logically irrelevant factors a permanent place in the schemata for such attributions, it seems likely that perceptually salient information is being registered by the schema as conceptually important and thus tending to "bias" the schema in the direction of "non-logical" attributions of causality. This explanation, in which salience is a feature of the initial coding of information, is supported by a related study by Smith and Miller on attributions of causality in the comprehension of verbal material. They found a salience effect in the comprehension of sentences describing causal effectiveness which resisted modification by subsequent supplementary information and was not diminished in later recall tasks. Smith and Miller's conclusion is that comprehension of such sentences involves a single conceptual representation of the contents of the sentence, which includes the effects of the relative salience of the information given.<sup>41</sup>

The main conclusion to be drawn from studies of perceptual salience is that comprehension includes an evaluative element. The representation of information by means of schemata includes not only conceptual relationships but also an evaluative component. Dominance or relative importance is an integral part of the conceptual structure of the schemata. This conclusion is further supported by the extensive work to have been done in the field of selective attention. The earliest investigations concentrated on what was known as the

"cocktail party phenomenon". A guest at such a gathering has the task of "paying attention" to one particular conversation in a room full of sound. This is achieved by attending strictly to the words of the speaker with whom he or she is engaged and "filtering out" the rest. But if someone in another part of the room mentions the guest's name or if a neighbouring conversation turns to a topic of interest, concentration on the original conversation becomes more difficult and the effort of selective attention becomes conscious. Experiments were begun in 1953 by E.C.Cherry, who played recordings of different messages simultaneously to participants over headphones, varying the subject matter, voice and position of the messages between the right and left ear. The subject was instructed to "shadow" one of the messages, that is to repeat it, in order to divert attention from the other message, and the aim was to find out what characteristics, if any, of the "rejected" messages are retained. The results indicate that in fact surprisingly few details of the rejected message even register. "Crude physical characteristics", such as whether the voice is male or female, can usually be recalled, but an account of the material in the rejected message is hardly ever given. This, however, does not mean that the rejected channel is not heard. "Highly probable stimuli", such as cliches, the sudden appearance of something new, such as a new voice, and "emotionally important stimuli", such as the subject's name, frequently catch the attention.

Initial attempts to explain these results postulated various types of filters, processes by means of which information was filtered out at various stages of processing. The problem with these explanations is the difficulty of explaining the great variety of information which may get through on the rejected channel if the conditions are right. In particular, it is variation in the task demands of the experiment, the information the subject is asked to listen for, which most affects the range of information to be perceived. In 1973, Neville Moray put forward an explanation, which has still received little attention, based on the theory of sampling. This is a model developed from the experience of aeroplane pilots, who are required to pay attention selectively to a wide range of

instruments. The task requires the observer to construct an internal model of the source of information, which must include the likely importance of information coming in from various directions, and continually to update this estimate of the relative salience of different sources as the information is sampled. The observer constructs a strategy for the distribution of attention based on past experience of the characteristics of the various information sources.<sup>42</sup>

The idea of a hypothetical filter mechanism reflects an earlier, information-processing, approach to cognition. Moray and Fitter's theory moves in the direction of a broader, cognitive orientation, drawing attention to the employment of dynamic strategies in the search for information. Such strategies are directed by the relevant schema, the one which includes the information relevant to the situation in which the observer finds himself. A crucial and integral part of the relevant information provided by the schema is the relative importance of different parts of the environment or elements of the situation. Like every other piece of tacit knowledge, salience information is continually up-dated. Judgements of salience are and must be flexible. The conclusion to which we are led is that the representation of knowledge by means of schemata includes an evaluative, or essentially affective element, an estimate of the likely importance of a given piece of information.

### 5. Dissonance: A Cognitive Theory of Emotion

If evaluation is an integral part of the coding of information, then evaluation must have a considerable effect on cognition. One theory which offers the possibility of a description and perhaps an explanation of this effect is the theory of cognitive dissonance. As outlined by Leon Festinger in 1957, the theory is an attempt to explain the phenomenon of "dissonance" and its effects by constructing a cognitive model. It is an attempt to explain affective factors involved in judgement and decision-making in cognitive terms. In Festinger's terminology, a "cognition" is an item of knowledge. But cognitions may include not only facts and concepts, but also such things as beliefs, hopes, attitudes, likes and dislikes. Thus, if I happen to like animals, this knowledge is expressed in the cognition, "I like animals". Cognitions are related to one another in three possible ways:

1. They may be *irrelevant*, which is another way of saying they are not related at all, for example, "I like animals" and "My wife is wearing a blue dress".

2. They may be *consonant*, for example, "I like animals" and "We own a cat".

3. Or they may be *dissonant*, for example, "I like animals" and "I believe that dogs are dirty".

A relation of dissonance is said to exist between cognitions when the converse of one follows from the other. But dissonance is not the same as logical contradiction. "I dislike cats" would be not only dissonant with "I like animals" but logically contradictory. But there is no necessary logical contradiction between "I like animals" and "I believe dogs are dirty". The dissonance is not logical but psychological, a definition much more flexible and difficult to define.<sup>43</sup>

Integral to the theory of cognitive dissonance is the proposition that there exists an inbuilt motivational drive to reduce dissonance. People tend to avoid dissonance, or, if it is impossible to avoid, to do everything possible to reduce the dissonance. Take, for example, a man who supports the Labour party, but whose wife votes Conservative.

If the man is at all interested or concerned about politics, the cognitions, "I vote Labour" and "My wife votes Conservative" are potentially dissonant. To reduce the dissonance, it may be possible simply to avoid the issue, to come to an agreement with his wife not to talk about politics. Alternatively, the man can change his behaviour by voting Conservative, or seek to change his wife's behaviour. Festinger quotes examples of experiments in which subjects were asked to take part in "dissonant behaviour". They had to write an essay justifying a point of view with which they disagreed. As a result, many of the participants changed their point of view. Their attitudes changed in such a way as to reduce the dissonance aroused by their behaviour in the experiment. It is possible to argue that dissonance had nothing to do with this result, that the subjects simply convinced themselves of the merits of the opposite point of view. But some of the participants were offered a large sum of money for writing the essays, and follow-up tests found that these subjects had changed their points of view much less if at all. To engage in "dissonant behaviour" with the excuse of making money did not arouse feelings of dissonance. These subjects were able to write their essays "with fingers crossed". For the others, it was the dissonance aroused by the experiment which produced the need to change their minds.<sup>44</sup>

Dissonance, Festinger argues, is not an isolated occurrence, but a regular feature of everyday life, and much of our behaviour can be explained by the attempt to reduce the dissonance between cognitions. Every disagreement and every decision involves an element of dissonance. In rejecting the possible good results of one particular choice in favour of its alternative, which may have a number of possible drawbacks, one incurs dissonance, and one of the features of subsequent behaviour will be to minimise this dissonance by taking steps to persuade oneself that one made the right decision. The extent to which this is the case will depend on the amount or magnitude of dissonance. The magnitude of dissonance is affected by the salience or importance of the cognitions involved. The degree of dissonance aroused by different political affiliations depends on how important a person sees politics overall. A man and wife of different political

persuasions may have heated arguments or they may simply not care. The imminence or otherwise of a general election may also make a difference.<sup>45</sup>

Dissonance theory, then, offers the possibility of a theoretical framework within which the relation between affective factors, such as likes, dislikes and attitudes in general, and cognitive representation might be explored. A number of problems arise, however, in connection with its application to experience. One of the most important is the near impossibility of either defining dissonance or predicting its occurrence. Although it includes logical inconsistency, dissonance is not the same thing, and cannot, therefore, be so tightly defined. Nor can dissonance be predicted simply by the observation of external factors. Dissonance arises as a result of the interaction of the individual and his or her circumstances. If, as a result of past experience, a person has come to dislike dogs, then the experience of being asked to look after a friend's dog is likely to arouse dissonance. It is not the request itself which gives rise to the dissonance, but the schema which says, "Dogs are dirty, potentially fierce and a nuisance." Dissonance cannot be defined because it depends on the individual's past experience.

This difficulty draws attention to the close connection between dissonance theory and the features of cognitive theory discussed so far. As well as being explicitly cognitive, the theory is also implicitly interactionist. In particular:

1. It is the interaction between the individual's schema and the external situation which decides the occurrence and the magnitude of dissonance.

2. The strategies available for dealing with dissonant information are closely related to those discussed in relation to the learning of any new material. Dissonant information can be ignored, or it can be reinterpreted in such a way as to reduce the magnitude of dissonance (assimilation), or it can be accepted and the dissonance reduced by a change in behaviour or in related opinions or beliefs (accommodation).

3. The "magnitude of dissonance" depends on the importance or salience of the cognitions involved.

A second problem concerns the motivation for dissonance reduction. The theory itself does not attempt to explain this; it simply asserts such a motivation. In some cases at least, the very existence of dissonance is dependent on motivational factors. Festinger gives the example of a gambler who knows he is losing and likely to continue to lose, and yet goes on playing. The cognitions, "I am losing" and "I am still playing" are only dissonant given the assumption of a third cognition, "I intend to win".<sup>46</sup> To explain the supposed drive to reduce dissonance, another source of motivation must be postulated. In other words, dissonance must be placed in the context of a broader motivational theory.

It is not difficult to discern what this broader context must be. To take another of Festinger's examples, the cognitions "I am a smoker" and "Smoking is injurious to health" are dissonant only in the light of a third cognition, "I am a rational person and intend to maximise my own health".<sup>47</sup> In other words, the existence of dissonance depends on a suppressed premise about oneself. The broader context required by dissonance theory is a theory about self-perception or self-image. This conclusion can be supported by the findings of the series of experiments on the influence of dissonant behaviour on attitude change. The tendency of subjects asked in the experiments to tell lies or to express support for a point of view opposed to their own subsequently to change their attitudes has frequently been confirmed, but with the proviso that this change of attitude only takes place when the subjects perceive their behaviour as freely motivated. In cases where the subjects were able to attribute their behaviour to some other factor, where, for example, a large sum of money was offered, no such change takes place.<sup>48</sup> This finding brings dissonance theory into the field of self theory. The explanation of motivation involved is the need to maintain coherent self-image and high self-esteem.<sup>49</sup>



## 6. Attitudes and Affective Processing

The coherence and stability of self-image is expressed in the phenomenon of attitudes, whose defining characteristic is the stabilising effect they exert over an individual's behaviour, opinions, values and general orientation. An attitude was described by Gordon Allport as "a mental and neural state of readiness to respond, organised through experience, and exerting a directive and/or dynamic influence on behaviour".<sup>50</sup> William McGuire describes an attitude as a heuristic, an informal empirical theory whose function is to comprehend a given situation by means of generalisation and simplification.<sup>51</sup> An attitude is, therefore, a schema, an "active organisation of past reactions", a means of simplifying or stereotyping experience for easier comprehension. But an attitude is also implicitly evaluative. By means of attitudes, situations are not only comprehended but also evaluated and behaviour thus directed.<sup>52</sup>

An attitude is an affective or emotionally organised schema. Take, for example, a man's attitude to his work. The schema will include a number of beliefs and items of information of varying degrees of salience. The job may be well-paid or it may be particularly difficult or carry a certain amount of status. These are likely to be salient items. The fact that he has flexible working hours or congenial colleagues may be more or less salient. Other items, such as the form of the works football team, may not figure as important at all. Attitudes are based on the evaluation of the attributes expressed by the most salient beliefs about a given element of experience. The man's attitude to his work is based on his evaluations of the salient set of beliefs. The attitude expresses his relative evaluation of the different aspects of the job. He may either resent the difficulty of his job or value this aspect highly for the self-esteem it gives.<sup>53</sup>

The function of an attitude is to provide evaluative coherence in a given situation. This it does by imposing an evaluative gestalt on the various beliefs which comprise the situation. As long as the

evaluation of the salient beliefs is favourable, a man may be able to take the less desirable elements of his work in his stride. But some change in the situation, a difficult new boss for example, might jump quickly to the top of the salience league, downgrading the more positive aspects of the job and giving greater significance to the negative aspects, previously overlooked.

To understand attitudes as affectively dominated schemata is to emphasise the importance of the evaluative dimension in cognition. Salience is to be understood, not as an extraneous biasing factor, but as a fundamental component, without which cognition could not operate at all. Without the capacity to make judgements of relative importance, such essential features of cognition as selective attention would be impossible. The importance of affect in cognition is, moreover, well supported in the literature. Bartlett's studies of the processes of reconstruction in memory, for example, highlight the role of what he called a global "attitude" as the basis around which the reconstruction takes place. This "attitude" was an affective gestalt, which Bartlett called a complex psychological state, difficult to break down. In the process of remembering narratives after a passage of time, first would come a salient detail as the key to the overall "feeling" of the passage. Details would then be filled in in accordance with or even in justification of the original feeling, with the result that any given story would be retold in a wide variety of ways corresponding to the various attitudinal reactions of the different hearers.<sup>54</sup>

Further evidence for the importance of affective processing comes from experiments concerning the phenomenon of "perceptual defence".<sup>55</sup> In these experiments, subjects were presented with words for visual recognition and verbal response, but by measuring at the same time the subjects' psychogalvanic responses, it was found that in the case of some words, physiological reaction actually took place before the word was recognised. The words where this pattern of response was noticed were those with threatening or taboo associations. In these cases, the affective reaction, apparent from the psychogalvanic response, occurred more quickly than the cognitive processes necessary for recognition.

Subjects appeared to respond emotionally to the taboo words before they had had time to read them! This conclusion makes no sense if it is assumed that emotional reactions must be subsequent to and dependent on cognition. But if, as the evidence of Bartlett's experiments suggests, cognitive processes are dependent on a framework of direct, "global", affective processes, then the "perceptual defence" hypothesis and other related findings fall into place. Not only is affective processing fast and inescapable, but it forms the framework for the cognitive aspects of communication. During the course of a conversation, for example, affective messages difficult to express in either words or conceptual form are conveyed fast, accurately and for the most part subconsciously by means of bodily and facial gestures.

These observations on affective processing help to explain the way in which attitudes gather up a variety of cognitive material, including facts and beliefs, within an overall affective framework. Schemata, it was noted above<sup>56</sup>, are related to each other in a variety of ways. In some cases, schemata "embed", in the sense that one schema may form a sub-schema of another. By imposing upon a number of beliefs and items of experience an evaluative gestalt, attitudes form dominating schemata over the whole range of experience. In doing so, attitudes affect cognition in fundamental ways. As John Hull comments,

The emotional value which is placed upon a construct must not be thought of as a mere feeling which is so to speak painted on the surface of an idea and which remains the same whatever colour it has...If I disapprove of fox hunting, I will place the construct in a constellation together with bull fighting, bear baiting, gladiatorial contests and other forms of inflicting cruelty for entertainment. If I approve of fox hunting, I will associate it with healthy outdoor life, the love of the countryside, the old English traditional values and so on...The fox hunting of which somebody approves is actually known in quite different a manner from the fox hunting of which somebody else disapproves.<sup>57</sup>

Attitudes provide evaluative coherence in specific areas of experience, but attitudes are themselves the sub-schemata of a further dominating schema, the self. Attitudes mediate between the self and specific areas of experience, such as work, family, members of the opposite sex, politics, religion, foreigners, animals, sport and so on. This is the explanation for the relative inflexibility of attitudes. Just as the suppressed premise behind the experience of cognitive dissonance was a particular self-image, an attitude to a particular area of experience also reflects an implicit self-evaluation. The man who is discontented with his job may consider himself capable of achieving more in the way of satisfaction or financial reward. The man who dislikes foreigners probably considers himself threatened in some way by their obvious difference from himself. Attitude change is difficult, because it involves a change also in the underlying self-evaluation, and this may be the subject of strenuous defence.<sup>58</sup>

Affective processing is the leading edge of cognition. It is fast, inescapable, irrevocable and although pre-conceptual, is very effectively communicated. Affective processing is independent of cognition. Not only do studies reveal separate reaction times for cognitive and affective processing, but attitude change is more effectively brought about by the alteration of affective rather than cognitive components, by changing the way a person feels about something rather than the way he thinks about it.<sup>59</sup> Cognitive organisation arises as a more differentiated intermediary within affective processing. In the case of babies, all they have is affective responses and limited but effective emotional communication. Cognitive responses develop as mediators within the framework of such affective response and communication, but they never replace it.<sup>60</sup> The key to the problem of "intuitive fit" is thus affective processing. The analogical relationship accepted as appropriate to the situation or problem to be comprehended is the one that "feels" right. Explicit, rule-governed inference may enter subsequently to give an account of the relationship, but it can never fully explain it.<sup>61</sup>

## Notes

1. *Pure Reason*, B171-174, p.177-178.
2. *Blue and Brown Books*, p.5.
3. Bartlett, *Remembering*, p.198-201.
4. *op.cit.*, p.202
5. *Personal Knowledge*, p.49-50, "Logic of Tacit Inference", p.6-7, *Knowing and Being*, p.144.
6. Polanyi, *Tacit Dimension*, p.12-13; "The Logic of Tacit Inference".
7. *Tacit Dimension*, p.16.
8. See Hamlyn, "Perception and Agency", *Perception, Learning and the Self*, p.53f. This article originally published in *The Monist* 61, 1978, p.536-547.
9. Rumelhart and Ortony, "The Representation of Knowledge in Memory", p.113.
10. R.C.Schank, "Language and Memory", in *Perspectives*, ed.Norman, p.121f.
11. Kuhn's argument is to be found set out most fully in "Second Thoughts on Paradigms", *The Essential Tension*, p.293-319.
12. See J.Searle, "Minds, Brains and Programmes", p.417-457, for a detailed argument on why the manipulation of formal rules does not amount to understanding. Awareness of the relationship between knowledge and the world represented by it is a part of the tacit foundation of knowledge and cannot itself be represented, See above, p.65-66.
13. Kuhn, *Structure*, p.189.
14. "Second Thoughts", p.301-306; *Structure*, p.187-191.
15. "Second Thoughts", p.308-318.
16. Anderson, *Cognitive Psychology and its Implications*, p.129-137. Rosch, "Cognitive Reference Points", p.532-547; Rosch and Mervis, "Family Resemblances: Studies in the Internal Structure of Categories", p.573-605.
17. Minsky, "A Framework for Representing Knowledge".
18. *ibid*, p.213.
19. See above, p.53f.
20. Minsky, *op.cit.* p.211-213, 221-227.
21. See above, p.58.
22. Minsky, *op.cit.* p.228-229.
23. Neisser, *Cognition and Reality*; Schank and Abelson, *Scripts, Goals...*; Norman, Gentner and Stephens, "Comments"; Rumelhart and Ortony, *op.cit.*; Rumelhart and

Norman, "Accretion, Tuning and Restructuring"; Schank, "Language and Memory"; Abelson, "Script Concept",

24. Rumelhart and Ortony, *op.cit.*, p.102-105.

25. Bruner, *Toward a Theory of Instruction*, p.10-21.

26. Kant, *Pure Reason*, A140-142, B180-181, p.182-183.

27. Polanyi, *The Tacit Dimension*, p.4; see Schank, "Conceptual Dependency"; Pylyshyn, "What the Mind's Eye Tells the Mind's Brain",

28. Macnamara, "Language and Learning", p.1-13; Bruner, "Ontogenesis",

29. Vygotsky, *Thought and Language; Mind in Society*,

30. Kuhn, "Logic of Discovery or Psychology of Research", see "Second Thoughts", p.313-317.

31. Kuhn, *Structure*, p.191f.

32. The use of the terms "assimilation" and "accommodation" to describe the action of the mind in cognition was originated by Jean Piaget, Piaget's theory, however, cannot be accepted without considerable modification,

33. On dissonance, see below, p.98-101.

34. Polanyi, "Logic of Tacit Inference", p.1f.; *Knowing and Being*, p.138f.

35. Kuhn, *Structure*, p.191f.

36. Kant, *op.cit.*, A132, B171, p.177f.

37. See Loder, *Transforming Moment*, p.20f. and 29-39, Loder points out that the traditional, logical account of thinking processes, for which he uses the scheme of John Dewey from *How We Think* as an example, fails to describe the experience of bafflement and sudden discovery, Loder summarises Dewey's outline as follows:

1. The sense of a problem.
2. The rational formulation of the problem.
3. Exploration of the problem by means of hypotheses.
4. Selection of the most likely hypothesis.
5. Testing of the hypothesis.

As an alternative, Loder proposes his own outline:

1. Conflict; the sense of a problem important (salient) enough to warrant attention.
2. Interlude for scanning, waiting, wondering, perhaps following hunches.
3. Constructive act of the imagination.
4. A sense of release from the constraint of the problem situation.
5. Interpretation of the felt solution for its implications.

This process can be illustrated from the biographies of several great scientists who have had an Archimedean "Eureka" experience, scientists such as Poincare, Kekule, Einstein and Schrodinger. The case of Einstein is particularly interesting because for some time the text-book presentation of the discovery of relativity represented it as a response to the Michelson-Morley experiment, whose results appeared to contradict the laws of Newtonian physics. In Einstein's biography, however, the discovery of relativity is described as the result of a sense of paradox which first occurred to him at the age of 16. This was followed by ten years reflection, before the solution emerged. The fact that it was philosophical reflection and not empirical research which led to this discovery is emphasised by Michael Polanyi (*Personal Knowledge*, p.10-11). It is an example of the distortion of what is basically a psychological process by the imposition of the logical criteria of explicit inference.

38. Odom and Guzman, "Problem Solving and Perceptual Salience"; "Development of Hierarchies"; Odom and Corbin, "Children's Problem-solving"; Odom, Astor and Cunningham, "Effects on the Matrix Task"; "Adults thinking..."; Odom, "Decalage Relations and Developmental Change", *Alternatives to Piaget*, ed. Siegel and Brainerd.

See also Donaldson, *Children's Minds*, p.65-69, for a further example of the influence of salience on children's reasoning.

39. The problem, which both adults and children were asked to solve mentally, is as follows:

Imagine that I have two cans. One has red beads in it and it is called the red-bead can. The other has blue beads in it and is called the blue-bead can. There are the same number of red beads in the red-bead can as there are blue beads in the blue-bead can. Let me repeat that. There are the same number of red beads in the red-bead can as there are blue beads in the blue-bead can. Now imagine that I dip a cup into the red-bead can and take out five beads. I pour them into the blue-bead can. Then I mix up all the beads in the blue-bead can. I then dip the cup into the blue-bead can and take out five beads and pour them into the red-bead can. Will the number of red beads in the red-bead can and the number of blue beads in the blue-bead can be the same or different?

The sentence, "Then I mix up all the beads in the blue bead can," is irrelevant to the correct solution. Its effect, however, is to trigger the attempt to reach a

solution on the basis of probability for those for whom probability is a salient concept (the adults). As a result, those adults who gave the wrong answer were, in effect, answering the wrong question. The irrelevant sentence in the problem led them to estimate the probability of all the red beads returning to the red-bead can, which is very low, leading to the answer "different", which is incorrect. The correct answer is, "The same", since for every blue bead transferred to the red-bead can a red bead remains in the blue-bead can.

40. Taylor and Fiske, "Point of View and Perceptions of Causality"; Taylor et.al., "Generalizability"; McArthur, "Illusory Causation"; McArthur and Ginsberg, "Causal Attribution"; Taylor and Thompson, "'Vividness' Effect"; Fiske, Taylor and Kenny, "Structural Models".

41. Smith and Miller, "Salience and the Cognitive Mediation of Attribution". The article by Henle, "On the Relationship of Logic and Thinking", is a classic study of the prevailing influence of conceptual salience over logical analysis in adults.

42. Barber and Legge, *Perception and Information*; Norman, *Memory and Attention*; N.Moray, *Attention*; Moray and Fitter, "Theory"; Neisser, *Cognition and Reality*; M.de Mey, *The Cognitive Paradigm*.

43. Festinger, *Cognitive Dissonance*, p.9-15.

44. *ibid.*, p.84-122.

45. *ibid.*, p.3-9.

46. *ibid.*, p.13.

47. *ibid.*, p.4-5.

48. Tedeschi, Schlenker and Bonoma, "Cognitive Dissonance"; Fazio, Zanna and Cooper, "Dissonance and Self-Perception"; Greenwald and Ronis, "Thirty Years of Cognitive Dissonance"; Frey et.al., "Discrepant or Congruent Behaviour".

49. Greenwald and Ronis, *op.cit.*, p.54-55.

50. Allport, "Attitudes", p.798f.

51. McGuire, "Attitudes and Attitude Change", p.159.

52. See McDonagh, "Attitude Change and Paradigm Shifts". McDonagh draws a parallel between attitudes and Kuhnian paradigms, or *formal* empirical theories.

53. Fishbein and Ajzen, *Belief, Attitude, Intention and Behaviour*, p.14-16.

54. Bartlett, *op.cit.*, p.61-62, 206-207; see Minsky, "K-lines".

55. Vernon, *Perception*, p.212-217. See also the "subception" experiments mentioned by Polanyi, *Tacit Dimension*, p.7-9, 95-97.

56. See above, p.86-87.

57. Hull, *Christian Adults*, p.106. Hull is discussing Kelly's personal construct theory.

58. See further p.131f.

59. The evidence is reviewed by Zajonc, "Feeling and Thinking".

60. *ibid.*, p.169-170.

61. One of the few philosophers to allow the role of intuition in thinking is A.C.Ewing. Ewing points out that the process of deduction depends on the observation of a connection between the various steps in the argument,  $A \rightarrow B \rightarrow C$ . Even if the process is broken down into smaller steps by the addition of further values,  $A \rightarrow D \rightarrow B \rightarrow E \rightarrow C$ , a logical gap still remains between A and D, D and B etc. However small the gap, the connection remains intuitive. We must be able to "see" the validity of the particular law of logic. (*Value*, p.41f., *Fundamental Questions*, p.48f.) In *Non-Linguistic Philosophy*, p.34-66, Ewing argues for the presence of intuition in induction, ethics and the apprehension of a whole as a whole as well as in deduction.

## CHAPTER FOUR

### Knowledge and Personal Identity

What creates in me a consciousness of self is the consciousness I have of a not-self, of an external world from which I firstly distinguish myself, which next I observe objectively from without, and with which I enter into relationship. Psychologists have described this birth of self-consciousness in the infant. There is, then, a double movement, first of separation and then of relation, between the self and things.

Next, what creates in me consciousness of being a person is entering into a relationship with another person, the 'thou'. Here again, we find the double movement; the consciousness of being distinct from another person, and the possibility of entering into personal relationship with him.

*Paul Tournier'*

We are not who we think we are;  
We are not who other people think we are;  
We are who we think others think we are,

*Source Unknown*

## 1.The Social Context of Learning

It has been established that the affective domain plays a dominant role in all aspects of cognitive processing, including learning. During the course of development, purely conceptual relationships become increasingly important in the organisation and acquisition of knowledge, but always within the context of global affective responses, which they never entirely replace. The explanation for this is to be found in the social context in which schemata develop. The psychology of learning tends to concentrate on the cognitive, but social psychology deals with the sphere of relationships, in which it is affect which is the dominant factor.

In the previous chapter, learning was considered from the point of view of the psychological changes which take place in the individual learner. In the present chapter, the focus of attention will be the social context of learning. For the individual, mental schemata provide intrapsychological coherence through the formation of meaningful world models. But schemata or world models also both express and contribute to social and interpersonal cohesion by the provision of *shared* frames of reference. The psychological changes by which learning takes place are the outcome and reflection of social interaction.

Two men may work side by side, day after day, on the same assembly line or workbench. Although from the point of view of the non-involved observer, their situation is exactly the same, they may, in fact, be inhabiting vastly different mental worlds, not in the sense of the life of the imagination, but in terms of situational definition. One may see his skilled job as an end in itself, a source of satisfaction in its own right. The other may see it as a means to a regular pay-packet and enjoyable leisure activities. Their attitude toward their colleagues, the authority of management or the prospects of promotion may all be quite different. "Situation" in this sense is a psychological construct. It consists of an interpretation of the work the individual is engaged in, which involves the memories, purposes,

anticipations, hopes and fears each brings to the shared task and the social interaction generated by it. Each man's response is to the situation as he defines it.<sup>2</sup>

Despite the difference in the mental worlds of these two individuals, however, communication between them is regularly possible. This is because of the various means of socialisation operating both within and outside the workplace, which tend to produce not just an overlap between each man's situational definition but a common basis of consensus. These include:

a) The shared physical environment, not simply at the workbench and within the factory, but outside it, in the form of the physical and geographical conditions shared by the community.

b) The firm's definition of the purpose of the enterprise. Recent experience in some firms has demonstrated that the extent to which this definition is effectively communicated is an important factor in the commercial success of the business.

c) The Trade Union, or some other unofficial shop-floor definition of the purpose of the job. Again, recent experience has shown that a serious mis-match between this and the "official" definition can prevent effective communication and lead to hostility and mistrust.

d) Beyond these are various cultural definitions of work, money, family, the particular product of the factory and so on. In Japan, for example, such definitions are very different from those familiar in Western Europe or the U.S.A. and the pattern of working and family life consequently very different.

Such common definitions form the outline of shared schemata, while leaving gaps to be filled by the particular individual or social group. Thus, although one man may see his work as an end in itself while the other values it only as a means of earning a living, both these are options within an overall shared definition of working life.

The formation of such shared definitions or conceptual frameworks and communication with others whose definitions may be either slightly or vastly different from one's own, is dependent on

the human ability to "take the stance of another". This is the aspect of human understanding previously referred to as *verstehen*.<sup>3</sup> It is the ability, not to enter another person's whole mental world, with all the implications of that for empathy with their own goals, hopes, fears and so on, but more simply, to construct another person's point of view for a given situation, and by doing so, to translate the terms of one's own situational definition into the terms of the other's. The extent to which this is possible varies from individual to individual and from situation to situation, so that the term "taking the stance of another" is to be understood not as full empathetic understanding, but only as the first step towards such an understanding. The ability of some individuals in some situations to move towards a full empathetic understanding is dependent upon a number of factors. All communication, however, involves the simplest levels of *verstehen*. Learning is not simply a process of psychological change, but also a process of socialisation.

The ability to construct the point of view of another is an indispensable part of learning from the earliest age. That this is the case has been demonstrated largely by experiments designed in response to the work of Jean Piaget, who denied it. Piaget was the dominant figure in the study of "cognitive development", particularly in the 1960s and early 1970s, since when both his experimental findings and his theoretical framework have come under increasing attack.<sup>4</sup> Piaget understood learning as the development of cognitive competence due largely to the gradual physiological maturation of the brain. Social factors, he believed, influenced only the speed, but not the course of cognitive change. Piaget viewed the young child as "egocentric", not in the moral sense, but in the sense that the child's capacity to interact is limited to interaction with the physical environment.<sup>5</sup> The child's ability to comprehend is limited by his or her existing cognitive structures. Cognitive development is a process of "decentering" away from these limiting structures to more adequate structures. The final stage to which the child "decenters" is that of complete objectivity, in which the child's constructions of the environment match reality. This, Piaget believed, was generally

achieved at the stage of "formal operations", usually at about the age of 15 or 16. Socialisation is achieved at this stage, not by each person taking the point of view of others, but by all sharing a single, objectively valid, point of view.

The outcome of Piaget's theory, and the viewpoint of cognitive developmentalism generally, is a lack of attention to the social aspects of learning. On this account, the most important, causal, factors in learning are purely intrapsychological, the growth and development of internal structures. The supposed "egocentric" nature of children's intelligence is the product of a theory in which there is no place for social interaction and socialisation as causative factors in children's learning.

One of the experiments by which Piaget hoped to demonstrate the child's lack of ability to construct the point of view of another involved a three-dimensional model of three mountains.<sup>6</sup> The child sits at a table on which the model is displayed, and the experimenter places a small doll at some other position around the table. The child is then asked to describe, or else to select from a number of alternatives a picture of what the doll can see. Below the age of eight or nine, children can rarely achieve this, and below the age of six there is a powerful tendency for the child to select or describe her own view of the scene. The "mountain task" appears adequately to confirm Piaget's hypothesis of childhood egocentrism. But this interpretation is open to question. In a variation of the mountain task, Martin Hughes replaced the mountain model with four walls arranged in the shape of a cross. The child sits at the table as before and two dolls representing a policeman and a "naughty boy" are introduced. The dolls are placed in various positions relative to one another and to the walls and the child is asked for each position whether the policeman can see the boy. With careful introduction and explanation, Hughes found that children as young as 3½ could answer correctly on up to 90% of occasions.<sup>7</sup>

The results of Hughes's experiment tend to call into question Piaget's interpretation of those he obtained from the mountain task. The main significance of the experiment, however, lies in its ability to suggest what and in what circumstances children *can* achieve. For this purpose, the differences between the two experiments need to be carefully noted.

1. The mountain task is much more difficult. It introduces difficulties in addition to that of simply taking the point of view of the doll. It is quite likely that for many of the children, the main difficulty they faced was not that of "decentering", but of understanding what they were meant to do.

2. The mountain task is an abstract problem, removed from the children's actual experience. In the policeman task, by contrast, while few if any of the children will actually have tried to hide from a policeman themselves, the ideas of authority, guilt and hiding provide a context of "human sense", within which the point of the problem is readily grasped. In contrast to the mountain task, the policeman task provides a comprehensible situation. It is a situation which, because it "makes sense", can be readily internalised and represented in the form of a schema, with the result that the supposed difficulty in co-ordinating the point of view of another evaporates.

3. The fact that the experimenter introduced and explained the task is not unimportant. For a young child, adults have a high degree of salience. In an experimental situation such as this, the intention of the adult, and the desire to comply is likely to be uppermost in the child's mind, heightening the child's ability to learn from the adult.

This explanation for the success of the policeman task highlights the importance of the role of others, and in particular of significant adults, in children's learning. Learning takes place in shared situations in which the child and the adult attend to the same thing, or in which the child helps the adult with a particular task, or the adult the child. In the learning of language, for example, John Macnamara and Jerome Bruner have argued for and demonstrated with experiments a process in which the young child first constructs a

preverbal representation or schema for a given situation and then learns to fit names to various elements of that situation by watching and listening to salient adults.<sup>8</sup> This process requires the child to recognise in the adult the intention to give a name to her actions or to objects in the shared environment, thus implying the ability of the child to recognise not only the point of view but also the intentions of another, and to differentiate these from her own.

Both this account of language learning and the comparison of the policeman task with Piaget's mountain task highlight the importance of what the Soviet psychologist, Lev Vygotsky, called the "zone of proximal development". This is used to designate those things of which a child is capable, given help from another. It lies in between the things a child can do without help and those things she is unable to do at all. From the teaching point of view, the concept is of vital importance. Vygotsky suggests that to be maximally effective, the level of instruction should aim at the zone of proximal development, at capacities which the child has not yet developed, but could develop with appropriate help.<sup>9</sup> In this view, what the child learns non-spontaneously, that is directly from others, is a particular way of describing, analysing or structuring a given situation, a schema for that situation or for a new element within it, which she then internalises or makes her own, by integrating it with the structure of her previous understanding. In the process the new schema begins to restructure previous understanding, giving access to wider applications and more powerful generalisations.<sup>10</sup>

Children learn by taking over the schemata of salient others. Schemata are learned in interpersonal joint action or, at a later stage, by engagement with a text, and are internalised to become part of the child's own cognitive apparatus.<sup>11</sup> From his observations of the transactions of mothers and children engaged on a learning task together, James V. Wertsch has suggested a four-stage model of this process.<sup>12</sup> The task which the mothers and the children were asked to do together was to build a model of a truck and its cargo from pieces

provided by reference to a model. The children were aged 2½, 3½ and 4½. The stages Wertsch describes are as follows:

1. The child fails to interpret the mother's instructions. She has no coherent definition of the situation, no schema by which to make sense of the individual directions. Two separate "language games" are going on and there is no common ground.

2. The child responds to specific instructions, such as, "Fit that piece here," or "Put the green one next to the red one." She realises that she and her mother are engaged in a common task, but has no understanding of the task itself. It is as she carries out her mother's instructions one by one that a schema for the task itself is gradually formed.

3. The child is able to respond to non-specific instructions, such as, "What do we do next?" (an implicit direction to look for the next part of the task). The transition from other-regulation to self-regulation has begun. The schema is shared to a limited extent.

4. The child does the task, but frequently repeats her moves out loud, asking and answering her own questions. The schema is taken over and the child has grown into the adult's perception of the situation. What began as an interpersonal, shared task has become an intrapsychological, internalised definition of the situation.

The importance of others, and particularly of adults and their understandings in the child's appreciation of the situation, offers a clear example of the way in which cultural definitions are passed from generation to generation, not simply by formal education, but also in a great deal of informal learning. But the transmission of culture is itself only one example of a something more general. Learning takes place in a social context. In the course of learning, schemata are taken over from others and internalised. As a result, the schemata by which an individual constructs his own individual world model are, to a large extent, derived from the shared conceptual framework of his culture and society.

## 2. Psychosocial Development

For the young child, the process of learning consists chiefly of taking over schemata or frameworks of comprehension from others. The child works within the frameworks provided by adults and learns to make those frameworks her own and to "indwell" them. The consequence is that the young child experiences the world largely as *given*. She grows up in a world already structured by others. Her parents or other immediate influences are the representatives of the wider and more impersonal society or culture, although as individuals, they give this their own distinct interpretation.

Primary socialisation consists of the internalisation of the world of others. The child's father represents fatherhood in general, her mother becomes her pattern of womanhood and specifically motherhood. Significant others later extend to include siblings, teachers and perhaps a favourite adult relation or friend. The earliest matrix of socialisation, the family, is a context of high power and high affectivity, in which the child is both physically and emotionally dependent. It is within the family that her basic needs, for food, warmth, security and love, are satisfied, and within which she also experiences the command of others over rewards and punishments.<sup>13</sup>

The role of the family in primary socialisation emphasises the importancy of affectivity in knowledge. Behind attitudes, which are affectively structured schemata, are the basic values and goals which express a person's relationship with the world, or with aspects of her experience. These fundamental values and orientations are learned at a stage of affective openness and dependence. "Give me a child until the age of seven," Ignatius Loyola is reported to have said, "and he is mine for life." Learning from others involves the ability to "take the stance" of others, to infer from their behaviour the meaning for them of a wide range of aspects of a given shared situation. Since attitudes and values are the fundamental units by which the world is comprehended and represented, these are readily internalised to form

the basis for the child's own values and motivations. The existence of "achievement motivation" in particular individuals, for example, can usually be traced back to the expectations of their parents, whether expressed overtly or not, and the evaluations of their performances derived from their parents' comments and other behaviour.<sup>14</sup> The corollary of this is that fundamental attitudes and values can usually only be *relearned* in situations of high power and high affectivity, such as prisons and other "total" institutions.<sup>15</sup> The fundamental changes which take place in the course of religious conversion also involve an element of resocialisation. If it is to be thorough and lasting, conversion may be expected to involve a high degree of affectivity and some degree of dependence.<sup>16</sup>

The relationships between the child and other members of her family, especially with her mother, are extremely important for the course of future learning. The relationship between the child and her mother may work well or badly. In the ideal situation, mother and child establish successful mutual regulation and the child develops an immediate and lasting sense of security. The worst possible outcome is where the child is neglected to such an extent that she dies. In between these extremes is a continuum of possible outcomes, as a result of which the child's sense of the regularity or trustworthiness of the world in general and security about her own place within it may develop well or badly. The acquisition or failure to acquire a sense of basic trust then becomes the foundation for the ability to cope with future stages of development. The ability of the mother to provide a satisfactory nurturing relationship depends largely on her own childhood experience and upbringing, as well as on the support of society in general, both in terms of material provision and social support, which represent the worth accorded to the experience and role of motherhood.<sup>17</sup>

The "crisis" of basic trust or basic mistrust is the first of the stages of "psychosocial" development as explained by psychologist, Erik Erikson. Psychosocial theory represents an attempt to place the insights of Freudian psychoanalysis in a wider, social context. It

draws attention to the ongoing interaction between personal identity and culture or society. Both the immediate family and the wider society whose institutions support the family, are necessary for the psychological growth of the individual. Without the support of the social matrix, the fully functioning person is an impossibility. A stage of development is not simply a function of psychological maturation, nor is it simply the product of social integration. Every stage represents an interaction between the potential of the maturing individual and the opportunity provided by society for the expression of that potential.

The principle governing psychosocial development is "epigenesis", or development according to a ground plan. The original Freudian ground plan was psychosexual, and its theme the resolution of sexual conflict, but in psychosocial theory the principle of epigenesis is extended to include a much broader range of interaction between the person and society. The stages described by Erikson, each with an accompanying "crisis", are as follows:

- |                    |  |
|--------------------|--|
| 1. Infancy         | <i>basic trust v. basic mistrust</i>   |
| 2. Early childhood | <i>autonomy v. shame and doubt</i>     |
| 3. Play age        | <i>initiative v. guilt</i>             |
| 4. School age      | <i>industry v. inferiority</i>         |
| 5. Adolescence     | <i>identity v. identity diffusion</i>  |
| 6. Early adulthood | <i>intimacy v. isolation</i>           |
| 7. Adulthood       | <i>generativity v. self-absorption</i> |
| 8. Old age         | <i>integrity v. despair</i>            |

The first five stages are based on the psychosexual stages of orthodox Freudian psychoanalysis, the "oral", "anal" and "genital" stages, followed by the periods of latency and adolescence. But Erikson has interpreted the task of each of these stages in broader social terms, rather than concentrating exclusively on sexual conflicts. In addition, three stages of adult life are included. In the first of these the task is the establishment of stable adult

relationships, traditionally through marriage. The next is the stage of productivity, whether in a career or in raising a family. Finally, in old age, the imminence of death brings the need to evaluate the outcome of one's life.

The principle of epigenesis means that the various elements of personality can be understood only in relationship to the individual as a whole. Each element is present as a factor in personality throughout one's life. The need for self-evaluation, for example, is not confined to old age, nor is the need to establish basic competences solely the concern of the school years. Each element, however, has its own time of ascendancy, the time when the potentialities for significant interaction centre around that particular aspect of the personality. A stage of development is defined by the particular interactions and the related element of personality which is dominant. Stages must occur in a proper sequence, each of which prepares the ground for the succeeding stage. Each stage involves a "crisis", a time at which the enduring effect on the personality of the experience of the significant interaction will be settled. The term "crisis" refers to the crucial period during which the lasting effects of the stage of development will begin to take root. It does not necessarily mean a time of turmoil or disruption. In this sense, the "crisis" of adolescence may be smooth and uneventful. According to psychosocial theory, adolescent crisis of identity is universal, whether or not it is accompanied by psychological "crises", such as rejection of parental authority, violent fluctuations in mood, etc. A crisis may be successfully surmounted, providing a firm basis for the next stage of development and tending toward the growth of a healthy personality, or the crisis may be less satisfactorily resolved, leaving a deficiency in a particular area of personality likely to affect the individual's ability to cope with all the succeeding stages.<sup>18</sup>

Knowledge of oneself involves a double movement of separation and relation. A boundary is created by means of which one defines oneself over against others, but the presence of such a boundary is tolerable only so long as satisfactory relationships with others

across the boundary remain possible.<sup>19</sup> The creation of this boundary and consequent definition of oneself is the task of the second stage of development and takes place in early childhood, although the maintenance and progressive definition of the self-concept continue throughout the whole of life. The developmental crisis of this stage is described as "autonomy" v. "shame and doubt". From the complete dependency of infancy, the individual's task is to achieve an area of autonomy or self-determination. It is the period of the "terrible twos", in which the most commonly used word seems to be, "No!" The young child must separate herself from her parents, by defining and achieving her own area of self-determination, without thereby severing herself from them entirely. The establishment of a tolerable boundary requires satisfactory self-other relationships. If the child and her parents are unable to create sufficiently good relationships such as to allow the child to define herself separately over against them, there will be a tendency for the boundaries of self to collapse, leading to a sense of doubt or shame. The very definition of a boundary creates not only the awareness of separateness, but the possibility of invasion, and consequent fear of exposure, sometimes expressed in adult life in dreams of being found naked or otherwise exposed.<sup>20</sup>

The second main stage in the development of the self-concept is the "crisis of identity" during the period of adolescence. This is the stage of social and psychological changeover from the largely dependent relationships of childhood to the measure of independence and self-determination expected of the adult. Mature adult identity is based on a successful resolution of the "crisis of autonomy" during early childhood, when the boundaries of the self, within which identity is to crystallise, take shape. From that time, the child begins to accumulate the unformed elements of personality, partial identifications with significant others, whether peers or those in positions of authority, interests and achievements, as well as typical emotional responses and defences in a range of situations. The task of adolescence is to integrate these into a mature self-image. Often, this requires a social moratorium, a suspension of the relationships

characteristic of childhood, often experienced as an attempt to distance oneself from parents and to identify instead with the peer group. The adolescent may need to "drop out" of society temporarily, in order to cope with the re-emergence in more powerful form of the social and sexual struggles of early childhood, played out this time in relation not simply with parents and siblings, but with society as a whole. Within the relative security of the social moratorium, the individual must shed the reflexive and dependent role identifications of childhood in order to re-integrate them into a greater whole, a new gestalt, which is the emergence of coherent, independent identity.<sup>21</sup>

Although relatively stable in adulthood, identity is far from fixed or static. In terms of psychosocial development, there are still three adult stages left to surmount after the achievement of identity, each one requiring further change and reintegration. Nor are these developmental crises the only possible turning points for the realisation of new aspects of the self. Experiences such as the meeting of a particular challenge, requiring the discovery of new talents or resources, the possibility of failure, the need to express commitment, the performance of a new role, divorce, bereavement or betrayal are all self-involving, calling for reflection and evaluation of oneself and the possibility of a change in self-concept. Even without the effects of unexpected or decisive events, many lives follow a pattern of regularised status passage. A person in employment may progress from raw recruit to employee with potential, through promotion, the realisation of having reached the limit of one's achievement to eventual retirement and reorientation away from work. Parents progress from the care of young children, to that of teenagers, through the time the children leave home to the role of grandparents.<sup>22</sup>

### 3. Self and Others

Knowledge of oneself is a developmental achievement. It emerges as a result of a process of development in the context of relationships with significant others. From the time in early childhood when the boundary is defined between self and others, within which identity is to take shape, the self-schema, which expresses such knowledge of self as has emerged from previous experience, becomes the dominating schema for interaction and learning. The sense of identity imposes coherence and direction upon experience, establishes a relationship between past, present and future and between separate areas of experience. But identity is not given ready-made. It emerges and develops in the course of social interaction.

Identity is not only a developmental achievement; it is also a social construct. The schemata which go to make up the individual's world model are taken over from others. The same is true of the elements which make up the self-schema. Knowledge of oneself emerges in relationship with others, in particular such significant others as parents, spouse, employer or friends, but including also those less direct, more impersonal relationships with society in general, the outcome of one's social background or occupation. The ability to "take the role" or stance of others, to understand and respond to another's point of view, including the values, goals, attitudes and opinions of others, allows the child to infer others' evaluation of herself, expressed as much in pre-verbal, affective communication as in language and conscious actions.

The basic values and orientations which are to become the foundations of identity are learned in the context of the family. In particular, it is parents' evaluation of oneself which have greatest significance. In the course of development, the experience expressed, "I am loved," comes to be generalised as, "I am lovable." Unfortunately, the reverse is equally true. Lack of the experience of being loved in early life can lead to the inability to receive love as an adult. But the family unit as the original matrix of socialisation very quickly

becomes part of the child's wider experience. In modern society, where children are exposed to institutional and peer group influences from an early age, not to mention those of the media of mass communication, the family is much less of a "total" institution than it might once have been. Peer group influence begins virtually as soon as the child meets others of her own age, but reaches its greatest importance during adolescence. School teachers become significant others, with powers of reinforcement and personal influence. The school itself imposes a particular set of values by institutional means rather than by direct personal influence. Television provides a wide variety of possible adult or peer group models.<sup>23</sup>

All these relationships, whether personal or impersonal, mediated or direct, give the child the opportunity to observe a particular value or set of values or a particular way of experiencing the world in action and to try these out for herself by taking the role of the other, reconstructing their values and applying them to her own experience. The plurality of relationships in which the child is involved presents the problem of inconsistent socialisation. The values of home may differ from those of school or friends. The tactics used to cope with inconsistent socialisation may have a considerable effect on the development of personality. Depending on her own strength of will and character and the attractiveness of the various groups, the child may adopt one pervasive loyalty, or compartmentalise her loyalty, taking on different value systems in different situations. She may attempt to balance the various roles and loyalties demanded, maintaining a psychological distance from any particular one, or she may begin to reject the authority of all or some others. The ideal adult solution is the integration of the various roles demanded into a secure identity, which enables reciprocal influence in most, if not all, reference groups, but this solution is rarely available to the child and is by no means uniformly successful even in adulthood.<sup>24</sup>

One of the most important ways in which the development and internalisation of values takes place is through play. In play, the child is able to try out the role of parent, friend or some other

model, as far as she is able to grasp it, vicariously expanding her experience of life. George Herbert Mead drew attention to an important step forward in the transition from "play" to "the game". Whereas in "play", as he defined it, the child takes on or interacts with one role at a time, in "the game" the participant must construct the role of all the players simultaneously. She must respond to the game as such, rather than to any one player individually. To achieve this requires the construction of a *generalised other*, which embodies both the rules and the purpose of the game.<sup>25</sup>

Ability to engage in the "game", governed by a corporate role, is the foundation for one of the most important features of adult life, membership of a variety of "reference groups".<sup>26</sup> Reference groups may be large or small, temporary or permanent. They include the family and the state, regular workmates or the occupants of a railway compartment. Some reference groups, such as history or "posterity", may not even exist in the present. One individual plays many roles. He may be husband and father, employee, committee member, club or church member, citizen or sports enthusiast. Each role is corporately defined by the members of the appropriate reference group, who through the appropriate channels of communication, be it direct personal communication, journal or mass media, define a generalised other for the particular group. The generalised other is the representation of the collective role, to which the individual responds. Like all schemata, the generalised other includes certain elements as mandatory, definitive of the role, others to be filled in according to the preference of the individuals involved. A waiter, for example, has a job to do, but the relationship he attempts to cultivate with the patrons may be less tightly defined. Similarly, the role of a committee chairman is made up partly of mandatory expectations, partly of a range of options. He may be easy-going or a stickler for procedure, authoritarian or democratic.

A reference group has two components:

- a) the people who belong to the group,
- b) the perspectives which they share.

Membership of a particular reference group involves sharing a certain definition of the relevant situation, at least to the extent necessary for participation in the group. This definition forms the foundation for the personal relationships which develop within the frame of reference thus provided. A committee must share a definition of its task, a club exists for the benefit of those who share the same interests and the stability of a state requires a certain degree of consensus. As a reference group, membership of the church involves these two components, the members and the shared perspectives. Belonging to the church means both sharing fellowship with a particular group of people and sharing the perspective of Christian commitment. Through the provision of a shared perspective, to which all the members can relate, reference groups contribute to the formation of individual identity. A person may express his knowledge of himself as "The best 400 metre runner in my athletics club", "A valued member of the church choir", or "An up-and-coming young executive".<sup>27</sup>

Each individual is the unique intersection of a number of reference groups. Each person has many roles, each one defined by the perspectives shared within a particular group. The fragmentation of a pluralist society allows the possibility of social mobility and the relative independence from all-pervasive social norms afforded by a choice of roles and reference groups. It also introduces the possibility of role and group conflict, similar to the problem of inconsistent socialisation in childhood, but here a potentially disruptive factor for adult identity. The task of maintaining a coherent identity involves the resolution of potential conflict between the norms or the demands of different groups. Reference groups differ in power and attractiveness, with respect to both the shared perspectives and the affective ties between the members. The degree of dependence of a particular individual on the opinions of others will depend upon the overall security of his identity and self-esteem.<sup>28</sup>

#### 4. Identity Formation as the Motivation for Learning

Each individual is a member of a number of reference groups, each with its distinct frame of reference. Each group comprises what Wittgenstein called a "form of life". The group's frame of reference is what he called a "language game". The meaning of terms is defined by their role in that particular language game or frame of reference.<sup>29</sup> One of the questions raised by the recognition of the existence of distinct forms of life is whether and, if so, how the terms of one language game may be translated into those of another. The translatability of terms between language games is not achieved by means of explicit rules but by the synthesis of frames of reference in the identities of individuals. The relationship between language games and social worlds is unique to each individual. As the unique point of intersection of many channels of communication, each individual inhabits a personal "universe of discourse", and establishes a unique relationship between frames of reference within his own identity.<sup>30</sup> A person's universe of discourse is the equivalent of his world model. It comprises the totality of his knowledge, organised by means of typical roles or situations.

Identity, or the "self-schema", is the dominating schema which brings cohesion to all the separate roles, reference groups or language games in which the individual is involved. The "self-schema", which includes various items of information, one's appearance, personal characteristics, capabilities, background, social roles, likes and dislikes, motives and goals, is implicit in all cognition, but it is the affective factors which dominate and provide its coherence.<sup>31</sup> A person may be only dimly aware of the tacit and affective presuppositions of his own behaviour, of the underlying causes of his reactions to particular situations.

Like any other schema, the self-schema is an item of tacit knowledge. No schema is an inert body of knowledge waiting to be drawn upon, like some kind of cognitive reference library. Schemata are actively organised, such that evaluations and inferences are

already implicit within them. Knowledge of one's appearance, abilities, preferences and so on, is not simply recorded but referenced to relevant situations, such as relations with the opposite sex, job, and leisure activities. The self-schema enters cognitive interaction in the form of the self-segment of the particular schema being deployed, according to the situation. In general, then, self-knowledge remains specific to social role. Knowledge of the self is a complex of cognitive, affective and volitional elements arising within the framework of personal interaction.<sup>32</sup>

This personal interaction is the social context for a complex, intra-psychological process of self-relation in which identity is formed and maintained, which was termed, by George Herbert Mead, the "I-me" relationship.<sup>33</sup> "Me" is the socially constructed "self" or *persona*, the complex of others' attitudes assumed by the self in the process of self-definition. "I" is the response of the individual to those attitudes. In order to be a member of society, the individual must take up certain roles, for which the standards of acceptable performance are socially defined. He must accept, for the purposes of performing the role, the perspective of the particular reference group within which the role acquires its meaning. But a role is not necessarily a rigid set of expectations. More often, there is a continuum of acceptable responses. The waiter may be friendly or formal, the committee chairman authoritarian or democratic, the teacher strict or easy-going, the father aloof or involved. By selecting a particular response, an individual not only takes but simultaneously makes a role. The decision as to how to play the role is that of the "I". Role-taking is a practical example of the response of the "I" to the socially organised "me". A person is "I" and "me" in relationship.<sup>34</sup>

The "I-me" relationship is essentially an evaluative relationship. The "I" evaluates the social self expressed in the "me" and responds accordingly. The way in which a role is taken up expresses an evaluation of the role. We may identify with it wholeheartedly or attempt to distance ourselves from it as a necessary but distasteful

part of social obligation. The "I-me" relationship is an expression of self-evaluation. It is as if the presence of others automatically calls out an evaluation of oneself. Since the "generalised other" is an ever-present feature, at least of adult life, self-evaluation is potentially continuous and all-pervasive.<sup>35</sup>

It is this evaluative relationship, lying at the heart of self-relation, which is the matrix of the learning process. The two related aspects of learning are the development of a psychological world-view or world-model and the formation of identity or a self-model. Of these two related aspects it is the formation and maintenance of identity which acts as the principal motivating factor in learning. The priority of the maintenance of self-esteem, or evaluative coherence, has been illustrated from the study of attitudes.<sup>36</sup> Attitudes are affectively organised schemata, which unify cognitions of a given aspect of experience by means of an evaluative gestalt. They are, moreover, resistant to change, and the source of this resistance lies in the need to maintain and defend identity. The flexibility of a person's psychological world-model, his ability to learn, depends on the degree to which his identity is capable of change and readjustment. If the accommodation of new information requires an adjustment of identity which is regarded as too costly to evaluative coherence, the new information may be rejected or distorted.<sup>37</sup>

Another example of the influence of self-worth and the priority given to its defence is given by Richard Ecker in his account of the sources of stress.<sup>38</sup> Stress, he contends, is not directly caused by circumstances but indirectly, by the person's interpretation of the circumstances. When a person interprets a particular situation as likely to cause a threat to his stability or self-worth the result is a stress response, in which the body prepares itself to combat the imagined threat. The reason for the faulty interpretation which gives rise to the stress response is the perceived threat to conditions which the person believes, either consciously or unconsciously, to be necessary to self-esteem. Such a condition is most often the need to maintain the control of an inter-personal situation. Very frequently,

it will be the attainment of a standard of achievement necessary for positive self-evaluation. The way to avoid stress, Ecker contends, is to identify the condition for self-worth which is the source of the faulty perception of the situation and seek to change or remove it. Ecker's account of stress is an example of the fundamentally affective nature of the "me" or self-schema and an indication of the deep level of personality at which the "I-me" relation takes place.

A particularly good example of the relation between learning and identity formation is the case of bereavement. The bereaved person, particularly the bereaved spouse, has lost a part of his or her identity with the death of the partner. In the months which follow, a great deal of what Colin Murray Parkes calls "grief-work" must take place, by means of which the bereaved person readjusts to life on their own by recovering those aspects of identity lost with bereavement. The bereaved wife may have to take on the role of breadwinner, learn to drive a car, fill in tax forms and provide as much as possible of what her children now lack in the absence of a father. All these learning tasks contribute to and arise from the need to discover a new identity - both socially, in regaining a satisfactory complex of roles in society, and psychologically, in learning to do without the support of friend, provider and sexual partner. The loss of a partner is, moreover, only one type of bereavement. Other kinds of loss, including the loss of a limb, the loss of a job and moving house, require similar responses. The learning of new skills, new roles and new identity is interwoven.<sup>39</sup>

The influence of identity formation can be seen most clearly in the difference between adults and children in regard to learning. Children typically learn much faster and more efficiently than do adults, a finding which has puzzled many researchers. Most children acquire their first language quickly and naturally at a very early age, and yet the ability to speak a language is so complex that it defies analysis. Throughout their schooling, children continue to learn quickly, but with the arrival of adolescence, many begin to display a marked reluctance to learn, and a questioning of the value of the

information offered them. Although adults, especially those in occupations which require them to do so, may continue to learn throughout their lives, many fail to do so. Their learning becomes predominantly task-related, limited to what is necessary to enable them to fulfil social roles and occupations.<sup>40</sup> The reason for these differences between adults and children can readily be seen to be attributable to the difference in regard to identity formation. For children, not only is there an overwhelming need to comprehend the environment in order to cope with it, but the role of learner is part of the identity of a child. A child is willing to learn what parents and teachers tell her she needs to learn, because she defines herself as an aspiring adult, and her goal is to learn to be like them. The adult, however, learns easily only those things required for the maintenance and extension of her identity in those areas clearly seen to be relevant to her. If the demands of occupational advancement or of social role, such as having a baby, make it necessary, learning can be just as quick and efficient as for the child. For both adults and children, the extent of the ability to learn is dependent on the process of identity formation and maintenance.

Identity is more than the formal link between the processes of cognitive and of social interaction. Not only is identity the means of psychological coherence and of social cohesion, it is the formation of identity which is the principle motivating factor in both processes. It is the quest for identity, and the need to maintain and defend identity which gives rise to the learning process. It is not simply that learning and identity formation are two sides of the same coin. It is identity which has the priority.

## Notes

- 1, *Meaning of Persons*, 1973, p.123.
2. A further example of this point is given by John Wisdom, *Other Minds*, p.225-228. The statement, "A fire is now raging in Fleet Street," means different things to different people, not simply because one observer may be actually in Fleet Street and another in Brighton, but because the memories, fears, goals, purposes and anticipations which provide the context for the impact of this fire on each one, will also be different. There is no single, "objective" meaning, valid for all observers, regardless of context or standpoint. The nearest we can come to this is the agreed definition of the context of a given statement.
3. See above, p.25f.
4. There is a tendency among educationists and child psychologists to treat Piaget simply as a theorist of child development. In fact, Piaget's interest was very much broader. He believed that there was an equivalence of "structure" underlying the realms of mathematics, physics, biology and psychology. Piaget intended the study of the "structures" of psychological development as the key to an overall theory of evolution. These broader theoretical assumptions underlie his approach to research with young children, the design of the experiments, their interpretation and Piaget's confidence in the cultural universality of results obtained with middle-class Swiss school-children. Since the mid-1970s, the shortcomings in Piaget's theory and method have increasingly been exposed, and a shift of the pendulum away from his version of "cognitive development" has begun. See M.Donaldson, *Children's Minds*; Long, McCrary and Ackerman, "Adult Cognition" p.3-18; Piaget, "Intellectual Evolution", p.1-12; Siegel and Brainerd, *Alternatives to Piaget*; Mussen (ed.), *Carmichael's Manual of Child Psychology* (4th,edition)
5. "Egocentrism" is also a stage in Piaget's account of the moral development of children. It lasts roughly between the ages of 3 and 5, and is characterised by a tendency to play games with and for oneself, to make up rules to suit oneself alone and the lack of a clear concept of an eventual winner. There is no co-ordination of interests with others. Other children and adults act as stimulus to activity, but not as partners. Most of these observations are incorporated in alternative accounts of social development in childhood. Piagetian structural development is by no means necessary as an explanation. The experiments recorded by Donaldson, *Children's Minds*, show clearly the ability of children to understand the point of view of another.

6. Piaget, *The Child's Conception of Space*, p.210f,
  7. Donaldson, *op.cit.*, p.19-25,
  8. Macnamara, "Language and Learning", p.1-13; Bruner, "Ontogenesis", p.1-19,
  9. Vygotsky, *Thought and Language*, p.103-105; *Mind in Society*, p.84-91,
  10. *Thought and Language*, p.82-118,
  11. *ibid.*, p.45-51; *Mind in Society*, p.57,
  12. Wertsch, "Social Interaction", p.1-22,
  13. John Hull draws attention to the need for Christian educationists to recognise the truth of Sigmund Freud's central proposition, that religious images and concepts develop from the experiences and conflicts of early childhood, The adult believer brings with him to the understanding of his faith a set of images deriving from childhood, Part of the work of adulthood is to understand and to cope with these childhood images. (Hull, *Christian Adults*, p.150f.)
  14. Brim and Wheeler, *Socialisation after Childhood*, p.16,
  15. *op.cit.*, p.24-27,
  16. See Gillespie, *Conversion*, p.187f,
  17. Erikson, *Life Cycle*, p.55-65,
  18. *ibid.*, p.52-55,
  19. Tournier, *Meaning of Persons*, p.122-138,
  20. Erikson, *op.cit.*, p.65-69; *Insight*, p.118-120,
  21. *Life Cycle*, p.88-94, 110-121,
  22. A.Strauss, "Transformations of Identity", *Human Behaviour*, ed,Rose, p.63-85,
  23. A.Bandura, "Social Learning Theory of Identificatory Processes", *Handbook of Socialisation Theory*, ed.Goslin, p.213-262,
  24. R.Lippitt, "Improving the Socialisation Process", *Socialisation and Society*, ed.Clausen, p.345-348,
  25. Mead, *op.cit.*, p.149-160,
  26. For an introduction to the theory of reference groups, see T.Shibutani, "Reference Groups and Social Control", Rose, *op.cit.*, p.128-147, For the general theoretical background, see Rose, "A Systematic Summary of Symbolic Interaction Theory", same volume, p.3-19,
  27. See above, chapter 1, note 10, for a description of a particularly specialised reference group, a scientific community,
  28. Brim and Wheeler, *op.cit.*, p.24-33,
- The theory of reference groups provides the sociological complement to Festinger's observations on the influence of relationships in cognitive dissonance. A highly

valued cognition shared by a highly valued other is relatively secure. A highly valued cognition not shared by a highly valued other introduces potential dissonance, (*Cognitive Dissonance*, p.177-259) See also p.246-259 and *When Prophecy Fails*, for an account by Festinger and his associates of the "flying saucer" sect given as an example of the interdependence of beliefs and social support.

29. Wittgenstein, *Philosophical Investigations*, II.xi, p.220f.

30. Shibutani, *op.cit.*, p.134-138; Mead, *op.cit.*, p.253-260.

31. Schlenker, "Actions into Attitudes", p.194-195.

32. The self cannot become an object of experience without being severed from its roots in experience, the form of which is interaction. This accounts for the perplexity expressed by David Hume.

"There are some philosophers," he writes, "who imagine we are every moment intimately conscious of what we call our SELF...For my part, when I enter most intimately into what I call *myself*, I always stumble on some particular perception or other, of heat or cold, light or shade, love or hatred, pain or pleasure. I never can catch *myself* at any time without a perception, and never can observe anything but the perception...If anyone upon serious and unprejudiced reflection, thinks he has a different notion of *himself*, I must confess I can no longer reason with him...He may, perhaps, perceive something simple and continu'd which he calls himself; tho' I am certain there is no such principle in me. But setting aside such metaphysicians of this kind, I may venture to affirm of the rest of mankind, that they are *nothing but a bundle or collection of different perceptions*, which succeed each other with an inconceivable rapidity, and are in a perpetual flux and movement." (*Treatise*, vol I, p.238-239)

The denial of any reality to the self or subject follows from Hume's characterisation of perception as passive reception. Although he is at pains to make this denial appear empirically based, it is, in fact analytical. It is required by a philosophical standpoint which denies any active involvement in perception. The self, however, is not to be looked for as an object. It cannot be isolated from the process of self-relation within which it arises.

33. Mead, *Mind, Self and Society*, p.xxiv, 173-178, 200-213, 331-335. Mead's theory forms the basis of the approach of symbolic interactionism, and is implicit in other approaches to social psychology.

34. R.H.Turner, "Role-Taking; Process v. Conformity", *Behaviour*, ed.Rose, p.20-40.

Even complete identification with a particular role may not be quite so "inauthentic" as Jean-Paul Sartre, for example, seems to think. There could not be a much greater difference in standards of role-performance between, say, a British waiter and an American one. Part of the problem with existentialism is that it sets the social self and the personal self in opposition instead of mutual interaction. Social self and personal self, *personage* and person, are distinct, but bound together. "Me" is created by "I", and "I" responds to "me", Tournier, *Meaning of Persons*, p.7f.

35. Schlenker, "Actions into Attitudes", p.197-199; *Impression Management*, p.18-22, 69-75. The theory of impression management is based on the control of identity images in the presence of others through the presentation of self, whether conscious or unconscious. It assumes a basic need to maintain and defend self-esteem.

Another important account of the status of the self is that given by Gordon Allport. Asking the question, "Is the Concept of Self Necessary?", Allport came to the conclusion that the "self" is best described as *proprium*. The components of Allport's *proprium* include bodily sense, identity (in the sense of continuity over time), rational process, self-image, ego-enhancement, ego-extension, that is the sense of ownership of those things, possessions goals and people, that we particularly love, and "propriate striving", similar to what Maslow calls self-actualisation. (*Becoming*, p.36-56, esp. p.39-41) The *proprium* is the region which is "peculiarly ours". It is the region of matters of *importance* to us as distinct from matters of fact, the kind of thing we keep inside the boundary which distinguishes us from other people. The *proprium* is the source of salience, of attitudes, goals and purposes. Within the boundary, it is evaluation which provides the sense of unity and integrity, and self-esteem the paramount requirement for the

maintenance of that integrity. In his original presentation, Allport included "the knower" as an aspect of the *proprium*. When the essay was reprinted in 1968, he explained in a preface that he had changed his mind on this point. Of the other aspects, he commented,

All these functions can be, and are, objects of knowledge. In this sense they comprise what James called the "empirical me"...But the nature of "the knower" - the process of knowing that we know - is still elusive, and is not itself an object of knowledge...Hence, in my book *Pattern and Growth in Personality* I have separated the problem of the knower (and consigned it to philosophy)...

(Gordon and Gergen, p.25)

36. See above, p.102-105.

37. See also p.101 on cognitive dissonance. As an explanation of behaviour, cognitive dissonance theory also relies on the assumption that self-related premises form the context in which dissonance arises.

38. Ecker, *Stress Myth*.

39. Parkes, *Bereavement*.

40. See Knowles, *Modern Practice*, especially Exhibit 4, p.43-44.

## CHAPTER FIVE

### Human Autonomy in the Process of Revelation

The best of workmen decided that that to which nothing of its very own could be given should be, in composite fashion given, whatsoever had belonged individually to each and everything. Therefore, he took up man, a work of indeterminate form; and placing him at the midpoint of the world, he spoke to him as follows: "We have given thee, Adam, no fixed seat, no form of thy very own, no gift peculiarly thine, that thou mayest feel as thine own, possess as thine own seat, the form, the gifts which thou shalt desire...Thou, like a judge appointed for being honourable, art the moulder and maker of thyself; thou mayest sculpt thyself into whatever shape thou dost prefer, Thou canst grow downwards into the lower natures which are brutes. Thou canst again grow upward from thy soul's reason into higher natures which are divine.

*Pico della Mirandola<sup>1</sup>*

Whoever I am, Thou knowest, O God, I am thine!

*Dietrich Bonhoeffer<sup>2</sup>*

## 1. The Image of God

In the previous three chapters the mechanisms of the learning process have been explored. The question now to be attempted is the relation between these and the processes by which revelation is received. Is there a continuity between learning and the reception of revelation or a discontinuity? Are the cognitive processes used in comprehending and responding to revelation those of natural human learning or does the discontinuity between the natural and the supernatural or between sinful men and women and a holy God necessitate some altogether different means of understanding?

The account of learning requires for its coherence an overall theoretical framework consisting of an "image of man" or explanation of the fundamental nature of human beings. If the study of learning is to be related to that of revelation, then the anthropology by which it is undergirded must be theologically justified. Two aspects of this anthropology are particularly relevant:

a) The image of the learner.

This includes a definition of the form of knowledge, as well as a description of the way knowledge, skills and attitudes are acquired and developed. It involves, in particular, an account of the sources of motivation which control and direct the orientation to learning.

b) An account of men and women as receivers of revelation.

This includes the definition of revelation and its relation to philosophical accounts of man, his significance, destiny etc. It involves an account of the possibility of knowledge of transcendent reality. But its most important element is an account of the relationship between God and mankind within which divine communication may be understood to take place.

Each of the others having been dealt with, it is the last and most important of these elements which forms the subject for this chapter.

It is only comparatively recently that theological anthropology has become a subject in its own right. Discussion of "human nature" has always been implicitly an element in the understanding of the

## HUMAN AUTONOMY IN THE PROCESS OF REVELATION

nature of sin or "fallenness", of the nature of the redemption available in Christ and of the destiny to which human beings are called. But in the second half of this century it is increasingly recognised that anthropology holds the key to theology. With the abandonment of the cosmological approach to God, the belief in the possibility of using the creation as the starting point for the interpretation of the divine nature and attributes, the anthropological approach, the starting point from the question of human nature, has had to bear increasing philosophical weight.<sup>3</sup> Moreover, as David Jenkins maintained, in a world which is everywhere threatened by depersonalisation, concern with the nature and significance of persons has tended to move towards the top of the theological agenda.<sup>4</sup>

The most important Biblical statement on the nature of humanity is to be found in the account of divine creation in Genesis 1, particularly verses 26-28:

Then God said, "Let us make man in our image, after our likeness; and let them have dominion over the fish of the sea, and over the birds of the air, and over the cattle, and over all the earth, and over every creeping thing that creeps upon the earth," So God created man in his own image, in the image of God he created him; male and female he created them, And God blessed them, and said to them, "Be fruitful and multiply, and fill the earth and subdue it, and have dominion over the fish of the sea and over the birds of the air and over every living thing that moves upon the earth,"

The statement that men and women are created "in the image of God" is repeated twice more. Genesis 5:3 implies in addition that Adam passed on the "image" to his son through the normal processes of biological descent, and Genesis 9:5-6 reaffirms the dignity that goes with the possession of the image in its prohibition of murder on these grounds. Both these passages clearly imply that the possession and transmission of the image survived the Fall, that the image of God in mankind is not eradicated by human sinfulness.<sup>5</sup>

## HUMAN AUTONOMY IN THE PROCESS OF REVELATION

Although these passages in Genesis, all three from the Priestly source, are the only references in the Old Testament to the image of God, it is clear that what they convey is of great importance. They sum up an evaluation of human nature which is everywhere implicit in the other literature, and which, most significantly, is taken up in the New Testament to express the significance of the Incarnation of Jesus Christ.<sup>6</sup> It is not clear from these passages, however, in what precisely the image of God in humankind consists. Its significance is everywhere assumed, but nowhere explained. The best that can be achieved is to attempt to infer from the context what it is to which the "image" refers. Thus, several possibilities have been suggested.

a) It is assumed, in modern discussions, that the words "image" and "likeness", in Hebrew, *selem* and *demut*, are to be taken as poetical parallels, amplifying and explaining one another. This being so, the term *selem* refers to a physical, plastic image, while *demut* means predominantly abstract "appearance" or "similarity". Commentators have taken these terms to imply that it is the whole person, including the physical nature which represents the image of God, and not some particular aspect. This is reinforced by the insistence that throughout the Old Testament, a person is understood as a spiritual-psychological-physical unity.<sup>7</sup>

b) In the Ancient Near East, it was the king who was regarded as the earthly representative or image of God. By the application of this phrase to all mankind, the human role as God's agent in creation is stressed. The Genesis account twice links the creation of humanity in God's image intimately with their commission to have dominion over the world and everything in it. If the human vocation to rule over creation is not included in the image, it is at the very least implied by it.<sup>8</sup>

c) Karl Barth believed that the significance of the image was explained by the words, "Male and female he created them." These words, he argued, were to be taken as exegesis of the previous statement. That the existence of men and women in community or encounter is to be taken as essential to their being is suggested also by the words of God at this point, "Let us create..." The male-female relationship, Barth believed, was the archetypal encounter and the

## HUMAN AUTONOMY IN THE PROCESS OF REVELATION

basis of all the other "I-Thou" relationships of which human life is constituted.<sup>9</sup>

Each of these suggestions expresses an important aspect of Biblical anthropology, but the significance of the use of the phrase, "image of God" as a description of mankind's essential nature lies in another direction. It suggests not only that human beings reflect the nature of God, but that the nature of human beings is to be known only in the light of the nature of God himself. There can be no knowledge of mankind's real nature without a corresponding revelation of the nature of God. Thus, the very fact that the human being is described as God's image reinforces the conclusion of an earlier section that the point of entry of divine revelation into human knowledge is that unknown yet foundational "image of man" which lies behind every person's consciousness of themselves and their world. The effect of revelation, then, is to make sense of what we already know of humankind from experience and reflection, to provide a framework within which to interpret that experience. At the same time, it points to the characteristics of God himself, insofar as they are revealed by his dealings with mankind. The self-revelation of God occurs, in the words of T.F.Torrance, within the "complex situation involving our cognition of the world around us and of ourselves along with it."<sup>10</sup> Human experience provides the context for the receipt of revelation, as revelation reinterprets human experience.<sup>11</sup>

The content of revelation, it has been argued, is itself an "image of man", a vision of human being in relation to God and a disclosure of the nature of that "image of God" which human beings share. It is received at that level of human cognition at which definitive personal identity is sought, the elusive "I" at the heart of personality. Our conclusion will be that the content of revelation is a Person, Jesus Christ, through whom the image of God is revealed in the course of a

## HUMAN AUTONOMY IN THE PROCESS OF REVELATION

human history. The revelation of God in Jesus Christ has three aspects:

a) His life, death and resurrection.

b) The historical context in which they took place. The Old Testament as the history of Israel provides the categories for understanding the significance of Christ.

c) The outpouring of the Holy Spirit, which is a consequence of the exaltation of Christ and enables the contemporary appropriation of the revelation.

## 2. The Elusive Agent

One of the most important aspects of the biblical account of creation is the distinction between mankind and the rest of creation. This distinction goes beyond the vocation to "have dominion" over the animals. It is emphasised by the fact that at the point at which the creation of man is described, the verb *bara*, used exclusively of the divine activity of creation, signifying perhaps creation out of nothing, is reintroduced and solemnly repeated:

So God *created* man in his own image,  
in the image of God he *created* him;  
male and female he *created* them.

The implication appears to be that there is something distinctive about human beings which is not shared with the rest of creation, including the animals. This uniqueness is expressed by the author of Psalm 8. "Man", he observes is only a creature, hardly significant when compared with the grandeur of, for example, the heavens. Yet it is he who is made "little less than God" and crowned with glory and honour. There is a dignity given to men and women which is not shared with any other creature. The fact that human beings are created in God's image implies that there is something unique and highly significant about mankind, which distinguishes them from the rest of creation.<sup>12</sup>

The first conclusion to be drawn from this distinction between persons and nature is that Christian anthropology rejects the tendency to reductionism of much, if not most, of modern social science. In this context, "reductionism" refers to the assumption, implicit in the "unity of science" hypothesis classically expressed by John Stuart Mill, that the phenomena of human behaviour may properly be explained in the same terms and with reference to the same underlying causes as those of nature.<sup>13</sup> This type of reductionism is philosophically related to the reductionism of empiricism, as expressed in Quine's two dogmas, through the methodological assumption that any meaningful description of human behaviour could, in principle, be verified by appealing to non-problematic empirical observation.<sup>14</sup> Christian anthropology tends, therefore, to support the "hermeneutical" rather

## HUMAN AUTONOMY IN THE PROCESS OF REVELATION

than the reductionist approach to social science, the method of Dilthey and Weber, in which the meaningful level of description of human behaviour is that which takes into account the "agent's point of view" and the correct method of understanding that which is termed, *verstehen*.<sup>15</sup>

While the Priestly writer of the first chapter of Genesis makes use of technical, theological terminology in order to preserve the distance between God and his creation, the Yahwistic narrative is not afraid to express the essential distinction between nature and humanity by means of a homely and frankly anthropomorphic description.

Then the LORD God formed man of dust from the ground, and breathed into his nostrils the breath of life; and man became a living being.<sup>16</sup>

In contrast to the beasts of the field and the birds of the air, who are simply formed from the ground,<sup>17</sup> the man is not simply thus formed, but receives also the divine breath or *ruach*, with the result that he becomes *nephesh*, a living soul or being. The continuity between persons and nature, expressed here in his creation from dust, as well as the words of judgement on their life uttered on the occasion of his banishment from the garden,<sup>18</sup> is not to be ignored. In the last one hundred years we have become more aware than ever before of the extent of what we share with the animals in terms of the instinctive foundations of our behaviour patterns. But the picture in which a person's life or *nephesh* originates with the breath of God points to an essential distinction from nature not shared with the animals, expressed, as in the Priestly account, in the dominion of the man over the animals implied by his naming of them.<sup>19</sup>

This essential distinction between nature and humankind emerges in the phenomenon of human culture. Whereas for the animal kingdom, the conditions of life are governed directly by their particular ecological niche, for men and women, the environment is mediated by both the creative and interpretative aspects of culture. The distinction is expressed in the phenomenon of human subjectivity, the fact that men and women are conscious of themselves as subjects,

which has emerged repeatedly in the investigation of the learning process. Cognitive processes, including perception, comprehension and learning, require the activity of a subject. The subject acts as the interpreter of experience, assimilating information selected for attention to the structures of cognition arising out of previous experience. The existence of subjects creates a logical oddity, referred to by Gilbert Ryle as the "systematic elusiveness" of "I". It is impossible to confine the subjective "I" within tightly defined logical categories.<sup>20</sup> As Ian Ramsey pointed out, the nearest it is possible to come to a definition is to describe the sort of situation in which speaking of "I" makes sense.<sup>21</sup> Despite raising the problem of the "elusiveness" of "I", Ryle attempts to avoid the implication that subjects actually exist as entities distinct from and irreducible to the world which is capable of description. According to Ryle, the use of "I" is an example of a "higher order action" which is a commentary upon, and so refers to, another action. Since the action which is the object of the higher order action must be in the past, the relations between actions and higher order actions is simply one of temporal series. The last act is at any given time the "I". It is unanalysable for the same reason that a diarist cannot record the act of recording the last act in his diary, or a review be its own subject.<sup>22</sup> Ryle's theory may be understood as a logically expressed version of William James's psychological argument that the "I" of experience was nothing more than the stream of thought and not a metaphysical entity.<sup>23</sup>

The logical impossibility of a commentary being about itself is not an adequate reflection of the dimensions of the problem. This impossibility applies only to the level of description or syntax. At the semantic level, every commentary is, implicitly, about itself, because it is presented as a *commentary*, that is within the context of intersubjective convention required for meaningful communication. This context includes a set of conventions irreducible to description, which are simply taken for granted, amongst which is the experience of oneself as the subject of one's actions and judgements. There is a qualitative difference between reflection on a past action and the immediate self-awareness which is present in the act of judgement

## HUMAN AUTONOMY IN THE PROCESS OF REVELATION

itself. This difference reflects the fact that the subject can never become an object, an element of the world available to experience in the same way as other objects. The interpreting subject cannot be directly observed. Its presence is an inference from the process of interpretation.<sup>24</sup>

The peculiar logical status of the subject of cognitive processes is analogous to that of the "I" in the process of self-relation and social interaction in which identity is formed. In the "I-me" relationship, the "I" is the interpreter and evaluator of the self in the multiplicity of its roles and relations. There is, in Erikson's words, a need for a "central organising agency" as creator and maintainer of the self.<sup>25</sup> Identity or "self" is that part of the person which Jung called the *persona*, the "mask" which arises as a compromise between the individual and society.<sup>26</sup> Paul Tournier calls it the *personage*, which is distinguished from the underlying *person*, or real self.<sup>27</sup> The "self" is a social and psychological construct, an abstraction from experience. "Identity", in this sense, is essentially *synthetic* and *provisional*. But the existence of such a synthetic identity seems to demand an underlying "real" self or person, of which identity is the creation. It is the nature of this "I" which is at the root of the problem of identity.

The distinction between human beings and the rest of creation is reflected in a discontinuity in the pattern of explanation appropriate to the natural world due to the presence of the interpreting subject. This discontinuity is expressed in the process of decision. As Aurel Kolnai puts it,

Action is not a 'resultant' of psychic urges pressures yearnings cravings, attractions and repulsions forces or bents not an emergent product of motives relevant to its context rather it is the execution of a decree issued by something like a unitary self or ego or 'sovereign ruler' who consults those motives and is influenced ('inclined', 'pressured', 'instigated' or coaxed) by them but who in its turn is in control of motility and directs its workings <sup>28</sup>

## HUMAN AUTONOMY IN THE PROCESS OF REVELATION

As we have observed, the intention of an agent can take the place of a causal factor. Actions are to be distinguished from movements by the fact that they can be seen to result from the intention of an agent translated into purposeful movement by a process of decision. The difference between, "I raise my arm," and "My arm goes up," is precisely the intention of the speaker to raise his arm, which can be said to cause the movement.<sup>29</sup> Advocates of the "unity of science" argue that the "decision" could, in principle, be explained in terms of the natural chain of causation, thus abolishing the need for Kolnai's "'self', 'ego' or 'sovereign ruler'". If this were the case, however, such a decision would, in principle, be predictable from a chain of natural causation. For an agent to predict a decision would involve consulting not the motive from which he expects to be acting at the time concerned, but the causes he predicts to be operating upon him. This is to blur the distinction between the theoretical and the practical, to reduce all meaningful explanation to verifiable description in the same way as logical positivism. Faced with the necessity of action, the agent does not attempt to estimate the relative valency of causal factors, but consults his motives and decides. This is what is meant by saying that motives influence but do not compel.<sup>30</sup>

The agent thus retains a measure of freedom of decision within the natural world, without thereby invalidating the laws which govern the course of nature. In fact, the agent's decision itself operates in the same way as a natural cause, and more often than not the means by which the agent's decision is carried out is his body, through which he is himself a part of the natural, physical world. Thus, formed from dust yet animated by the breath of God, mankind is both part of creation yet stands over against it. Rather than subject to the one executive will expressed in the universal causal laws of creation, each person is a little executive, an independent centre of action.

The rejection of determinism poses the problem of the extent of the freedom available to the agent. In the interactionist framework proposed above, the choice between freedom and determinism is resolved in favour of "situational choice".<sup>31</sup> It has frequently been remarked

## HUMAN AUTONOMY IN THE PROCESS OF REVELATION

that the extent to which it is possible for the agent to exercise his freedom is governed by the extent of his knowledge.<sup>32</sup> The theory of learning advanced in chapters 2 and 3 above adds to this the observation that the individual's knowledge is situation-specific. Comprehension is limited by the necessity to deploy a given schema, which stereotypes the situation in a certain way. The individual's response is to the situation *as he defines it*. The options available are limited by the way in which situations of a similar type have previously been understood and structured. Psychosocial theory offers an example of this general approach. There, the way in which the crisis of each developmental stage is resolved either imposes limits on or offers resources for the resolution of future crises.<sup>33</sup> Finally, the most important limitation on individual freedom is the power of the agency of others. No individual is entirely independent of the opinions and the esteem of others. There is, as Schleiermacher observed, a degree of freedom and dependence in all our relationships. As inhabitants of a shared world in which all cognitions are held as those of a particular reference group, the power of the group or of significant others is a major factor in the way the situation is structured.<sup>34</sup>

If the agency of others imposes limits on the individual's freedom of action, it is a feature of the relationship between God and mankind as recorded in Scripture that God is able to accomplish his purposes by means of human decisions without in any way limiting the freedom of situational choice of those through whom he acts. That this is the case is implicit in a wide range of Old Testament literature, of which one of the most celebrated examples is the "Succession Narrative" of 2 Samuel and 1 Kings. This document sets out to explain how it was that Solomon became king in succession to David, a process purposed by God from the day of his birth, but achieved with the minimum of direct divine involvement. One of the principle features of the "secular" world-view of the author, presumably a member of Solomon's court, is the way in which God is seen to be at work in and through the decisions of men and women. This feature is echoed elsewhere, in the stories of Joseph and of Ruth, for example. In the

## HUMAN AUTONOMY IN THE PROCESS OF REVELATION

prophets, Isaiah, Jeremiah and most notably Deutero-Isaiah assert that God makes use of heathen nations in order to accomplish his purposes for Israel. In the wisdom literature, the mind and decisions of kings is said to be in the Lord's hands. The most telling and difficult examples of this relationship between the purposes of God and of people occur in the New Testament, first in the case of Judas, and then in the case of Israel as a whole, whose hardening, Paul argues, using the case of Pharaoh as an example, is a necessary part of God's purpose of extending his salvation to the Gentiles.<sup>35</sup>

It may be correct to discern a parallel between this situation, in which God works through human agency without limiting the freedom of human decision and the way in which human freedom operates without invalidating the natural laws governing the creation as a whole. However that may be, there remains the question of the relation between the dependence of men and women upon God as creator and the sphere of human independence. Reviewing the situation in modern theological anthropology, David Kelsey concludes that there are two types of relationship between God and mankind which need to be distinguished. The one is an unchanging and unchangeable relationship, the relationship to God in creation and preservation, in which God upholds the universe for the benefit of mankind. In this relationship, humanity is radically dependent and cannot be otherwise. But this relationship is logically distinct from any relationship constituted by the possibility of the knowledge of God, or of sin and redemption. "In modern theology," he concludes, however, "these two kinds of relationships between persons as creatures and God have collapsed into one kind of relationship, consisting in a mode of consciousness or a conscious decision, and admitting of degree." What is required, Kelsey concludes, is the recovery of a full-blown doctrine of creation to take the weight of the dependence which is an unavoidable dimension of human existence, in order to give men and women as agents their full place in the account of sin, salvation and the knowledge of God, and to allow for the modern consciousness of mankind as autonomous, self-constituting and historically conditioned.<sup>36</sup>

## HUMAN AUTONOMY IN THE PROCESS OF REVELATION

With the recovery of this distinction, the fact that persons are agents, independent centres of decision and action within the created world, is to be seen as the result of divine endowment. From this follow all the features which govern the conditions of human knowledge examined in the previous four chapters. The creation of a psychological world-model through the essentially hermeneutical process of interaction is the work of the *active* subject. The result of this process is precisely that lack of a definitive "human nature" which results in the necessity for self-constitution, on the part of both individual and society, and which thus gives rise to the historical nature of human self-consciousness. It is precisely this proper autonomy of mankind in which the image of God consists.<sup>37</sup>

It is, moreover, a consequence of this interpretation that it involves the interpersonal aspect of human existence as a further aspect of the image. All knowing is a "knowing with". The fact that learning takes place in a social context is not merely a contingent but a necessary and integral part of identity formation. The recognition of significant persons is a necessity for the creation of schemata for the comprehension of the world. In particular, it is impossible to develop a self-concept except in the context of close relationships with others. The boundary between self and others is a fluctuating and permeable one. It is possible for others and even for things to become part of the self in the sense that they constitute part of that area of experience which is loved and defended.<sup>38</sup> What we call "me" is a particularly highly valued selection of the attitudes of others. Knowledge arises within the evaluative frameworks generated by relationships. Without others, there would be no self-evaluation, no self-knowledge and no knowledge of the world. As a person exists unavoidably in interaction with the world, so he exists unavoidably in relationship with others. Awareness of "I" is awareness of being in encounter.<sup>39</sup>

Finally, some account is needed of the estrangement from God generally referred to as sin. It is a feature of virtually every philosophical anthropology that it includes, as well as an assessment

## HUMAN AUTONOMY IN THE PROCESS OF REVELATION

of the nature and destiny, a diagnosis of the essential problem of mankind and a prescription for its solution.<sup>40</sup> There is a contradiction at the heart of human existence whose effects are inescapable, even though its cause, like the essence of human nature itself, defies precise analysis. Like the nature of mankind, the precise nature of sin requires revelation for its illumination, since it has to do with the relation between God and man. Sin is a distortion of value, a failure to act from the highest available value in a given situation, usually because of the force of the competing claims of some end of greater value to oneself. The salience of any given object or goal, as reflected in the more or less stable attitudes which form predispositions to action, is measured by its contribution to the formation, maintenance and defence of personal identity. The preference of some other good involves the costly sacrifice of some preferred value, although this may be compensated for by the ability to strengthen the image of oneself as a generous or altruistic person. Even given the desire to promote the good of others, the individual is compelled to work from within his own world-view or that of his reference group.

At the root of this predicament is the lack of a definite image of man or estimate of one's own true nature and value. In the absence of any definite knowledge of the real or underlying self, all value-judgements are based on the need to construct and maintain the social self, the *persona* or *personage*. Sinfulness and the lack of identity turn out to have a common root. In respect of sin, without the knowledge of God mankind is condemned to choosing on the basis of lesser values. Without the possibility of knowing and choosing God, his every act is unavoidably sinful. In respect of identity, man without the knowledge of God becomes, in the words of Reinhold Niebuhr, a "problem to himself".<sup>41</sup> The implication is that the discovery of true identity allows the possibility of the choice of the highest good. The person whose actions reflect a secure knowledge of their own essential nature and value, though he may not avoid sin automatically, is at least enabled to make choices which are no longer dictated by the need to maintain an essentially inauthentic identity.<sup>42</sup>

### 3. The Spirit of Revelation

Like the cognitive processes of which it is the outcome, learning involves the activity of the subject. In perception, there is a balance to be observed between the constructive activity of the imagination, expressed in the formulation of "perceptual hypotheses", and the adjustment of imagination to the environment, expressed in the confirmation of the hypothesis and adaptation of the underlying schema to the information received. A similar balance is observed between the processes of assimilation and accommodation. In the one, the learner interprets the material in order to comprehend it in terms of his previous understanding. In the other, it is the pattern of the learner's understanding which is changed. The outcome is that the form of knowledge differs from individual to individual according to the circumstances in which and the process by means of which it has been learned. If revelation is to be learned, it must not only be capable of bringing about fundamental change in the believer, but it must be capable also of becoming subject to the process of shaping and alteration involved in assimilation without losing thereby its character as revelation.<sup>43</sup>

The activity of the subject observed in learning is the outcome of the freedom of the agent. Restricted as it may be by the constraints of social context, it is this essential freedom which is expressed in the search for authentic identity, whose outcome is learning. If revelation is to be received and understood by means of the ordinary processes of learning then its form must reflect the fact that the men and women to whom it is addressed are not only active but autonomous. As the necessity of understanding salvation as due to divine grace alone does not remove the necessity for insisting upon a proper human autonomy, neither is this removed in the process of revelation, which is, in any case, but one aspect of the gift of salvation. Revelation must be understood in such a way as to take into account these aspects of the learning process and the anthropology by which that process is interpreted.

## HUMAN AUTONOMY IN THE PROCESS OF REVELATION

The way in which this is to be achieved is by means of the concept of "spirit" and in particular by means of an account of the work of the Holy Spirit in revelation. On the one hand, the idea of the human spirit is part of the terminology which expresses the essential nature of mankind, closely related to the "image of God". On the other hand, it is the Holy Spirit who is primarily responsible for the subjective dimension of revelation<sup>44</sup>, who speaks through the prophets of both Old and New Testaments and who, it is promised, will guide the believer into all truth. It is important that the doctrine of the Holy Spirit not be simply "pulled out of a hat" at this point, as the classic means of legitimation, in order to fill the gap left by the inexplicable. But on the other hand, the doctrine of the Holy Spirit is clearly relevant in this context. "Spirit" is a "bridge word", which expresses the human relation with the transcendent.<sup>45</sup> What is required is a coherent doctrine of the Spirit in relation to human nature, to human knowledge and learning, and in relation to revelation, one which will both explain and be illuminated by the model of learning and its anthropological presuppositions presented so far.

It has been suggested that the description of the creation of mankind in Genesis 2, in which God first, "formed man from the dust of the ground," and then, "breathed into his nostrils the breath of life," should be taken as a parallel to that which, in the first chapter, is expressed by the creation of man in the "image of God".<sup>46</sup> It is the breath or *ruach* of God which is pictured as the source of human vitality, a vitality which, Reinhold Niebuhr insists, is not to be confused with that which is proper to nature. The vitality of humanity is a vitality of spirit. It is the spirit which upholds the soul and enlivens the body, so that the unity of men and women as soul and body is derived from and grounded in their dependence upon God.<sup>47</sup> The meaning of *ruach* in the Old Testament may be divided into three groups:

1. wind
2. The force which vivifies men, the principle of life or breath, and, derivative of this sense, the seat of knowledge and feeling.
3. The life of God, the force by which he acts and causes action.

## HUMAN AUTONOMY IN THE PROCESS OF REVELATION

"Spirit" is not a category of substance, but of action or force, a principle of energy.<sup>48</sup> The "spirit" in man is thus the "seat of action" or dominant disposition. It is possible to speak of a "spirit" of intelligence or of wisdom, a spirit of jealousy or of an "'evil' spirit from the Lord".<sup>49</sup> For this reason also, "spirit" is frequently a parallel with "heart" where this refers to motive or intention.<sup>50</sup>

The fact that the presence of spirit in men and women is attributed to the breath of God implies that the distinctiveness of mankind within the created order is due to a particular mode of created relation with God. Exactly how this relationship is to be described, however, is a point of controversy. On the one hand, the conclusion may be drawn that the spirit by which a human being subsists as a person is a partaking of the spiritual nature of God. As Emil Brunner puts it,

Man can be person because and insofar as he has spirit, Personal being is 'founded' in the spirit; the spirit is, so to speak, the substratum, the element of personal being. But what is spirit?..God *is* spirit, man *has* spirit.<sup>51</sup>

Karl Barth, in his even more radical presentation, declares,

Man has Spirit. By putting it this way we describe the spirit as something that comes to man, something not essentially his own but to be received and actually received by him, something that totally limits his constitution and thus totally determines it,..Man has Spirit as one who is possessed by it.<sup>52</sup>

What Barth and Brunner have done, however, is to conflate the second and third senses of "spirit" given above by subsuming the idea of spirit as the principle underlying human life and consciousness under that of spirit as the action of God. This has the effect of making the very life of the person a divine action and removing the autonomy proper to men and women in their created relationship with God. It also introduces the Holy Spirit unnecessarily into the relationship of men and women to God as creatures. It is true to say that Scripture speaks of the spirit of man as God's gift and under God's power, its removal resulting in death, but the Holy Spirit, for whose return the author of Psalm 51 prays, for example, is not the principle which

## HUMAN AUTONOMY IN THE PROCESS OF REVELATION

upholds the psalmist's very life, but which upholds his relationship with God, a relationship characterised by a "willing spirit". It is not the Holy Spirit which animates the person as creature but the human spirit, which, so long as he lives, is that person's possession. It is only in the economy of salvation that a relationship between the Holy Spirit and the spirit of man is effected.<sup>53</sup>

It is the spirit, with which mankind is endowed at creation, which is the source of human freedom, the foundation of human agency and proper autonomy. "It is spirit that furnishes the key to the Biblical understanding of man's self-transcendence; it is spirit that keeps the relation between God and man essentially free and personal."<sup>54</sup> It is the same principle, the spiritual nature of mankind, which governs both the essential nature of mankind and our relationship with God. It is the spirit which gives a person the capacity for a personal relationship with her creator, since it preserves her essential freedom in relation to God. "A distinction must be made between man's existential *dependence* on God, which he shares with all living creatures and which applies to him as an 'ensouled body', and man's personal *relation* to God, which can be realised only at the level of spirit...Man's relation to God, which corresponds to the structure of his being as God's creature, can be realised only by the free act of the human spirit."<sup>55</sup>

When God intervenes through his Spirit in the affairs of men and women, he does so by the infusion of a divine principle of action. The Spirit of God "comes upon" particular people to enable them to carry out God's will. This applies particularly to the judges, such as Gideon and Samson, but also to such servants of God as Moses and Joshua, Elijah and Elisha. With the establishment of the kingdom, the Spirit is seen to be with the king in a particular way. In these instances, it is by means of his Spirit that God is shown to achieve his will through the actions of men without overriding their proper human autonomy. The Spirit is given to God's servants as a principle or spring of action enabling them to do God's will. By post-exilic times, it had become customary to refer to the Spirit not simply as acting

## HUMAN AUTONOMY IN THE PROCESS OF REVELATION

sporadically in and through particular men but as the means whereby God had acted and continued to act throughout the whole history of his people, in a way consistent with his personality, as well as the mode of God's presence with his people.<sup>56</sup>

There is, therefore, as Congar observes, a pattern of increasing inwardness in Israel's understanding of her relation with God. When God acts, it comes to be understood not simply as directed towards the achievement of a certain political goal, such as military victory, but towards the establishment of a relationship with such of his people as he can find who are receptive. Initially, the scope of this personal relationship is limited to particular chosen servants, including the prophets, but by post-exilic times, it is seen as more widely available, in particular to the "poor", such as those who speak in such passages as Isaiah 63:7-14. It is the Spirit who supplies the possibility of moral cleansing and of a holy life. In particular, a time begins to be envisaged in which all will share in the personal relationship with God which is the experience of the prophets, in which all will participate in the Spirit, and in the book of Joel, this hope is extended beyond the boundaries of Israel to embrace "all flesh".<sup>57</sup>

The 'economy'...to which the Scripture bears witness moves forward in the direction of greater and deeper interiority; 'God all in all'. This progress is clear in the Old Testament. It reaches its conclusion in the New Testament where it is connected with a more perfect revelation and experience of the Spirit.<sup>58</sup>

The New Testament sees the fulfilment of what is foreseen under the Old Covenant. The new age inaugurated with the coming of Jesus is "the beginning of an eschatological period characterised by the gift of the Spirit to a people of God with a universal vocation."<sup>59</sup> In place of sporadic individual occurrences, the Spirit is given permanently and fully in and then through Jesus Christ to lead each of God's people to *teleiosis*, perfection or maturity.<sup>60</sup> The fullness of the Spirit is to be a characteristic of all Christians. In Galatians 3:14, Paul writes that it is through the gift of the Spirit that the promise

## HUMAN AUTONOMY IN THE PROCESS OF REVELATION

to Abraham is fulfilled.<sup>61</sup> It was Lesslie Newbigin who pointed out the existence of an important strand in the theology of Christian experience which is frequently overlooked - the Pentecostal strand. According to this strand, it is participation in the Spirit, which is a definite and recognisable experience, which is the foundation of Christian life and of membership of the Church.<sup>62</sup> The significance of Newbigin's observation has been increasingly recognised since his early work. According to James Dunn, baptism in the Spirit is the high point of "conversion-initiation". The whole event involves repentance, faith, forgiveness, union with Christ and the gift of the Holy Spirit, but it is the gift of the Spirit which both completes and enables Christian conversion and which demonstrates, both to the believer and to others, that a genuine work of God, with the potential of bringing about a changed life, has taken place.<sup>63</sup> As Hendry puts it, "The Spirit is the subjective counterpart to the objective fact of Christ,"<sup>64</sup> and Congar writes, "The Spirit makes it possible for us to know and recognise Christ. This is not simply a doctrinal statement. It is an existential reality."<sup>65</sup>

The indwelling of the Holy Spirit introduces into the believer's life a new centre of agency or principle of action, with the potential of producing aspects of the divine character, expressed as the "fruit of the Spirit", love joy, peace, patience, kindness and so on.<sup>66</sup> Given at Pentecost, the festival at which was celebrated the giving of the Law, the Spirit introduces a new law, the law of love, not as a written code but, as the prophets foretold, as a centre of action in the human heart.<sup>67</sup> But while the Spirit represents a new centre of action in Christian experience, the believer is in no way constrained or possessed by the Spirit. This is specifically the point of that passage, beginning in 1 Corinthians 12, in which Paul deals with the gifts of the Spirit in worship. It is, he maintains, the spirits of the "dumb idols" which his readers previously worshipped which constrain and possess. The Holy Spirit is not to be understood in this way, but rather as working according to the character of God, which is love. Rather, Paul maintains, in Galatians in particular, possession of the Spirit brings authentic freedom, freedom from the constraints of the

## HUMAN AUTONOMY IN THE PROCESS OF REVELATION

Law, which can only condemn, and freedom from the desires of "the flesh", that orientation which is hostile to God and results in "slavery" to evil desires. Possession of the Spirit is what enables authentic personal choice against a background of sharp dichotomies, light or darkness, faith or works, life or death and so on.<sup>68</sup> To be filled with the Spirit means not a replacement of substance but the communication of an inner dynamism. "We become subjects of a quality of existence and activities which go back to God's sphere of existence and activity."<sup>69</sup>

It is the gift of the Holy Spirit which offers the believer the possibility of the knowledge of God. It is the Spirit which enables the ongoing process of revelation in the believer's life. "When the Spirit of truth comes," Jesus declared, "he will guide you into all the truth...He will glorify me, for he will take what is mine and declare it to you." Knowledge of God, he declares, is the defining characteristic of "eternal life".<sup>70</sup> Revelation is a transaction between the human spirit and the divine Spirit in which the Holy Spirit touches, meets or "impinges" on the human spirit, to make God known at a deep level of personality.<sup>71</sup> The Spirit witnesses 'with our spirits' that we are children of God.<sup>72</sup> In revelation, God's self-consciousness is communicated by the Holy Spirit to the seat of human self-consciousness, making the believer aware of his standing and relationship with God. As Hendry puts it,

The Spirit constitutes the subjective condition which is necessary for the apprehension and recognition of the objective self-manifestation of God in Christ; for the Spirit is God knowing himself, and to receive the Spirit is to participate in that knowledge.<sup>73</sup>

The most important passage in this context is 1 Corinthians 2:6-16. There, Paul writes of the role of the Spirit in revelation and explicitly draws an analogy between the human spirit as the seat of a person's knowledge of his own thoughts and the Holy Spirit as the communicator of God's own knowledge of himself. The kind of knowledge available in this way through the Spirit is, Paul declares, unavailable from any other source. The "unspiritual man", and indeed the "carnal" Christian, cannot know the things of God, since it is only by the

## HUMAN AUTONOMY IN THE PROCESS OF REVELATION

Spirit that they are made known. But the outcome for those who possess the Spirit is the "mind of Christ". In the context of the argument in 1 Corinthians, the "mind of Christ" refers to the knowledge of the "depths of God", that wisdom which is available to those who trust in Christ and so receive the Spirit. But the phrase also carries overtones of another meaning, the "character" or "attitude" of Christ, as for example in Philipians 2. The implication is that the knowledge of God is something which works in a human life from the inside out, beginning with the spirit, the seat of self-consciousness or subjective identity and working outward through the change in character enabled by the gift of the Spirit. Such "wisdom" as does not arise in this way is, declares James, "unspiritual and devilish."<sup>74</sup>

Knowledge of self and the world is the product of agency, that power of choice and self-constitution with which men and women are endowed in creation. In the same way, the subjective dimension of revelation is the product of agency, God's own agency experienced by the believer in the form of the indwelling Holy Spirit. Learning is the outcome of a search for identity which is the expression of the God-given power of self-constitution. Revelation, similarly, is the outcome of the gift of a new identity as children of God on the model of Jesus Christ, which is realised in the believer's life by means of the Spirit. The source of revelation is supernatural, but the manner in which it is appropriated is entirely natural. It involves the mechanisms of learning and identity formation already in place as the result of the created relationship with God which the believer shares with all men and women. The experience of revelation is a process of learning, but it is a process of a particular kind, one whose distinctive characteristic is the centrality of Christ, whose Person constitutes the objective datum of revelation.

## Notes

1. *The Dignity of Man*, tr. Wallis, New York; Bobbs-Merrill, p.12.
2. *Letters and Papers from Prison*, p.173.
3. Kelsey, "Human Being", *Christian Theology*, ed. Hodgson and King, p.141; Anderson, *On Being Human*, p.vii; Pannenberg, *Anthropology*, p.11f. The anthropological basis of theology is seminally expressed in the theology of Schleiermacher.
4. Jenkins, *Glory of Man*, p.3-12.
5. Von Rad, *Genesis*, p.70-71; Cairns, *Image*, p.20-21.
6. See below, p.173f.
7. Von Rad, p.57f. See also Eichrodt, *Old Testament*, vol 2, p.147f.
8. Von Rad, *loc.cit.*; Berkouwer, *Man*, p.70-72, Pannenberg, *Anthropology*, p.75.
9. Barth, *Dogmatics III/1*, p.191-202, *III/2*, p.203-324.
10. Torrance, *Theological Science*, p.32.
11. See above, p.32-34.
12. This point emerges even more strongly in Genesis 9:2-6. While, after the Flood, man is given the beasts for food, to shed the blood of man is a capital offence, since man bears the image of God. Eichrodt, *op.cit.*, p.118f.
13. See above, p.23-24.
14. See above, p.47f. In the case of behaviourism, the implicit basis in Humean empiricism is demonstrated by Charles Taylor, *Explanation*.
15. See above, p.24f.
16. Genesis 2:7. See below, next section, for discussion of the interpretation of the "spirit" terminology.
17. Genesis 2:19.
18. Genesis 3:19.
19. The question of the relationship between man and nature inevitably raises the problem of evolution, and makes it necessary to give a brief account of the status of evolutionary theory in relation to theological anthropology.

The first point to be made is that "evolution", as an approach to science as a whole, and particularly biology, is a metaphysical and philosophical point of view. Its roots go back to the materialism of Hobbes and the mechanism of eighteenth century philosophers like Hartley for whom man was to be understood exclusively in terms of nature. Another important element was Hume's sceptical demolition of the cosmological argument, which undermines the necessity of belief in a transcendent Creator. Evolution, then, was a philosophical outlook long before

## HUMAN AUTONOMY IN THE PROCESS OF REVELATION

it became a scientific theory, and continues to be essentially a philosophical outlook. There are a great many theories of evolution but all depend upon overall philosophical, and particularly anthropological, assumptions within which the evidence is interpreted.

One of the principle planks of the scientific argument for evolution is the theory of natural selection. But natural selection alone is not enough to demonstrate the validity of evolutionary theory as a whole. Natural selection can be said to *assist* evolution only if it is assumed that there is something in the constitution of matter which is predisposed to the formation of life and, eventually, intelligence. As a recent correspondent in *The Listener* put it, "To advance it as *the* evolutionary drive is like saying that a rocket rises solely on account of getting lighter as fuel is used up." (*Listener*, Feb 19, 1987, p.17) The relation of natural selection to evolution as a whole is similar to that of stimulus-response theory to behaviourism. The theory itself may be regarded as valid for the particular area of experience to which it refers, but to extend it to cover human behaviour as a whole involves the importation of a considerable body of methodological and metaphysical assumptions, the same body of assumptions which is involved in transforming natural selection into a full-blown theory of evolution.

The question which science cannot answer is whether, whether or not there is a mechanism within the constitution of matter which could achieve the "rolling out" of the forms of life we find on the planet, God is personally involved in the process as its transcendent Source, its Creator. The issue is between metaphysical approaches, the one denying the necessity for "that hypothesis", the other affirming it. (In the modern context, Deism, despite its considerable residual influence, may be said to be a variety of evolutionism.) In the light of this conclusion, Pannenberg's comment, "The idea that there was an original unity of humankind with God which was lost through a fall into sin is incompatible with our currently available scientific knowledge about the historical beginnings of our race," (*Anthropology*, p.57) fatally misses the point. If "currently available scientific knowledge" is taken to validate the metaphysical assumptions of evolutionism, there can, indeed, be no "artificial attempts to rescue traditional theological formulas." But the failure to see that scientific conclusions do not and by their nature never could validate their philosophical and metaphysical foundations invalidates his argument and vitiates the approach of the whole book, which is based on it.

## HUMAN AUTONOMY IN THE PROCESS OF REVELATION

It is possible, despite Pannenberg's doubts, to take Brunner's position, Brunner interprets the image as an "origin", if not a historical then a divine origin, and sin a "contradiction" of this origin, To transfer the image from origin to *goal*, in the manner of modern theology, is, he believes, to capitulate to optimistic evolutionism, (*Man in Revolt*, p.82-88.)

20. Ryle, *Mind*, p.177-189, According to A.J.Ayer, the subject is something which can be demonstrated but not described, known but not comprehended, *Problem of Knowledge*, p.184-187.

21. Ramsey, "Elusiveness", p.198-201.

22. Ryle, *op.cit.*, p.182-189.

23. James, *Principles of Psychology*, p.314-350.

24. See the argument of Kant in the "Transcendental Deduction of the Categories", *Pure Reason*, A84-130, B116-169, p.120-175, Kant distinguishes "pure apperception" from "empirical apperception" or "inner sense", "Empirical apperception" is the "self" of which we are aware, It is an objectification of the subject, Our knowledge, Kant argues, is never of objects in themselves but only of appearances, Accordingly, before it can become an object of knowledge, the self must be become an appearance, This takes place when it is projected into the sensible manifold by means of an action, The action by which the self becomes part of the sensible manifold is *synthesis*, the process by which unity is imposed on the manifold, What is known is the action - the performance, but not the performer, "We intuit ourselves [ie.perceive ourselves] only as inwardly affected *by ourselves*," (*Pure Reason*, B156, p.158) Or, as he put it in the first edition,

The mind could never think its identity in the manifoldness of its representations, and indeed think this identity *a priori*, if it did not have before its eyes the identity of its act, whereby it subordinates all synthesis of apprehension (which is empirical) to a transcendental unity, thereby rendering possible their interconnection according to *a priori* rules, (*Pure Reason*, A108, p.137)

The term "pure apperception" refers to the knowing subject, the "I", The "I think" or transcendental ego is the presupposition for the activity of synthesis, The "transcendental unity of apperception" is the condition for the attainment of knowledge by means of synthesis, It is this which enables the subject to impose unity on what would otherwise be a confused mass of perceptual data, And it is because we are aware of such a unity that we are driven to presuppose the existence of the transcendental subject.

Only insofar as I can grasp the manifold of representations in one consciousness, do I call them one and all *mine*. For other-wise I should have as many-coloured and diverse a self as I have representations of which I am conscious to myself,

(*Pure Reason*, B134, p.154)

Kant's argument is rejected by empiricists on the ground that the sensible manifold need not be thought of as confused, requiring the synthesising action of the knowing subject. But sensation need not be thought of as a "blooming buzzing confusion" in order to require an active contribution of the subject for its comprehension. It is the limitation of cognitive capacity and consequent need for selective attention which most effectively points to the role of the subject, a subject understood, moreover, as agent.

The epistemology presented in chapter 2 of this thesis differs from Kant in that we have postulated a process of *interaction* in place of the simple combination of passive sensibility and active understanding. This change has far-reaching consequences for the Kantian scheme. In interaction, the "categories" of the understanding, expressed in schemata, are formed and modified by experience. There is, therefore, no need for a system of universal innate categories. This disrupts the static, a-historical nature of Kant's scheme and allows for the influence of social and cultural context and psychological history. What remains, however, is the point outlined in the "Transcendental Deduction", the necessity to assume the presence of a knowing subject.

For a similar view of the value of the Transcendental Deduction, see Hamlyn, "Perception and Agency", in *Perception, Learning and the Self*, p.52 and Korner, *Kant*, p.56-59.

25. Erikson, *Identity*, p.149. See Allport's similar comments, p.137-138.

26. Fordham, p.47-49.

27. Tournier, *Meaning of Persons*, p.7f.

28. Kolnai, "Agency and Freedom", *Royal Institute Lectures*, p.24. Kolnai points out the connection with the thought of Kant's First Critique, in which the intelligible ego acts as a cause, that is an initiator of new chains of events. The agent intervenes in the causal pattern of the world without invalidating the chain of cause and effect. Kant, however, places the agent's motive exclusively within the moral context, attempting to explain it in terms of moral self-legislation. Agency in its fullest sense is the foundation for moral experience, but applies to all contexts. A similar point is made by Hampshire, *Thought and Action*, p.213-216.

## HUMAN AUTONOMY IN THE PROCESS OF REVELATION

29. See above, p.66-67,
30. Hampshire, *op.cit.*, p.101-134,
31. Bigge, *Learning Theories*, p.180f,
32. Hampshire, *op.cit.*, p.133,
33. See above, p.120f,
34. Schleiermacher, *Christian Faith*, 54, p.12f. See Tounier, *Strong and Weak*,
35. 2 Samuel 9-20, 1 Kings 1-2; Genesis 37-50; Ruth; Isaiah 10:4f, 37:21f; Jeremiah 5:14f; Isaiah 45:1-7; Proverbs 16:9, 21:1; Matthew 26:24; Romans 9-11,
36. Kelsey, "Human Being", p.154-167, esp. p.164f.
37. *ibid*, p.152-156, Cairns, *Image*, p.188-192.
38. The concept of the *proprium*, which Gordon Allport uses to define the "self", includes those things which are particularly loved, under the category of "ego-extension".
39. The fact that persons can be known only in a manner distinct from other objects leads to speculation about the nature of "person" as an ontological category, which has a long history in Christian theology. It was the need to preserve the concept of person from reduction to the terms appropriate to the analysis of nature which lay at the heart of the doctrinal debates of the early centuries, in particular in the context of the discussion of the correct way of understanding the Trinity and the Person of Christ, leading up to the promulgation of the Nicene Creed and the Chalcedonian Definition. The discussion turns on the meaning to be given to the Greek word *hypostasis* in relation to the term *ousia*. In secular usage the terms had broadly the same meaning, namely "being", but the term *hypostasis* was adopted by the Fathers to stand for the distinct "Persons" of the Trinity in contradistinction to the *ousia* which they share in common. Thus, Gregory Nazianzus could write, "The Son is not the Father, but he is what the Father is," and Basil could write,  
It is indispensable to have clear understanding that, as he who fails to confess the community of the essence (*ousia*) falls into polytheism so he who refuses to grant the distinction of the *hypostases* is carried away into Judaism...For merely to enumerate the differences of Persons (*prosopa*) is insufficient; we must confess each Person (*prosopon*) to have an existence in real *hypostasis*.  
(Basil of Caesarea, *Ep.ccx,5*, Stevenson, *Creeeds*, p.112.)  
It is extremely difficult to grasp the distinction between *ousia* and *hypostasis* because of its apparent similarity to the Aristotelian distinction between the general and the particular. In the West, there was a tendency to

## HUMAN AUTONOMY IN THE PROCESS OF REVELATION

assimilate the understanding of persons to Aristotelian categories, seen for example in Boethius' definition of "person" in man as *substantia individua rationalis naturae*, where *substantia* is a translation of *hypostasis*. This makes the human person an individual of the particular rational species, man, but it has the disastrous consequence of making the Persons of the Godhead "individuals of the species 'divinity'", thereby destroying the unity of the Trinity.

Is the idea of *hypostasis* as an ontological category denoting personal existence applicable interchangeably to both God and man? If the Fathers fail to make this connection, it is because of their reluctance to be drawn into definitions of either *ousia* or *hypostasis*. But the analogy was certainly developed in the twelfth century by Richard of St. Victor. Rejecting the Aristotelian framework, he appeals to the human experience of subjectivity as the basis for our understanding of the Trinity. "Person" he defines as *divinae naturae incommunicabilis existentia*, or the incommunicable "standing forth" of the divine nature. The substance of the individual, he maintained, tells you the What?, the nature or *ousia* of that individual. But the person tells you the Who?, the only "definition" of which is a proper name, an incommunicable and irreducible individual. (Richard of St. Victor, *De Trinitate*, iv, 6-7.)

If the image of God is to be interpreted in terms of the ontological category, "person", then it is the relation between *ousia* and *hypostasis* which is shared by both God and man. The *ousia* of God and man are entirely different, but in both God and man *ousia* individuates not simply as an individual actualisation of the common substance on the Aristotelian model, but as *hypostasis*, a unique and irreducible subject, a Who? rather than a What?

40. Stevenson, *Seven Theories*, p. 3-8.

41. *Nature and Destiny*, vol. I, p. 3f.

42. The difficult concept of the "formal image" or the "remnant" of the image can also be reinterpreted in these terms. What the idea of the "formal image" points to is the question at the heart of existence posed by the need for definitive identity. It is the "gap" left by the lack of the knowledge of true identity caused by the broken relationship with God. The material image is known only in Jesus Christ.

43. See above, p. 89-90.

44. See above, p. 11f., for the use of the term, "subjective dimension" of revelation.

45. Moule, *Holy Spirit*, p. 7; Lampe, *Spirit*, p. 34.

46. Hendry, *Holy Spirit*, p.107.
47. Niebuhr, *Man I*, p.13f, 27-29, 151f.
48. Congar, *Holy Spirit I*, p.3.
49. *ibid.*, p.4; Snaith, *Ideas*, p.146-150.
50. Snaith, *loc.cit.*; Moule, p.7f.
51. Brunner, *Man in Revolt*, p.237.
52. Barth, *Dogmatics III/2*, p.354.
53. See Hendry, p.29, 48-52; Moule, p.11-13, 16-17; Heron, *Holy Spirit*, p.140f.
54. Hendry, p.105.
55. *ibid.*, p.107. See above, p.151f.
56. Congar, *Holy Spirit I*, p.5-7; Lampe, *Spirit*, p.41-43.
57. Congar, *op.cit.*, p.8-9.
58. *ibid.*, p.12.
59. *ibid.*, p.15.
60. Congar, *Holy Spirit II*, p.73f.
61. Congar, *Holy Spirit I*, p.29f.; Lampe, p.73f.
62. Newbigin, *Household*, p.87f.
63. Dunn, *Baptism*, p.4, 224f. Dunn sums up his position as follows:  
     Faith demands baptism as its expression  
     Baptism demands faith for its validity  
     The gift of the Spirit presupposes faith as its condition  
     Faith is shown to be genuine by the gift of the Spirit. (p.228)
64. Hendry, p.25.
65. Congar, *Holy Spirit I*, p.37.
66. Galatians 5:22-23.
67. See eg. Romans 5:5 and 13:8-10, Ezekiel 36:24-28, Jeremiah 31:31-34.
68. Heron, *op.cit.*, p.44f; Congar, *Holy Spirit II*, p.120f. See especially Romans 7:7-8;8.
69. Congar, *Holy Spirit I*, p.32, citing Galatians 2:20 and 3:26-27, Philipians 1:21, Colossians 3:1f and 3:11, 1 Corinthians 15:28.
70. John 16:13-14 and 17:3.
71. Moule, *Holy Spirit*, p.7f.
72. Romans 8:16.
73. Hendry, *Holy Spirit*, p.34.

74, James 3:15,

The work of the Spirit in the believer has a parallel in the unbeliever. As the Spirit makes the believer aware of the character of Christ and of his standing before God, he does the same thing in the unbeliever in the process of conviction of sin, Congar, *Holy Spirit II*, p.122f.

An example of this may be given from the experience of Charles Colson, formerly one of President Nixon's aides:

During the throes of Watergate, I went to talk with my friend, Tom Phillips, I was curious, maybe even a little envious, about the changes in his life. His explanation - that he had "accepted Jesus Christ" - baffled me. I was tired, empty inside, sick of scandal and accusations, but not once did I see myself as having really sinned. Politics was a dirty business, and I was good at it. And what I had done, I rationalised, was no different from the usual political maneuvering. What's more, right and wrong were relative, and my motives were for the good of the country - or so I believed.

But that night when I left Tom's home and sat alone at my car, my own sin - not just dirty politics, but the hatred and pride and evil so deep within me - was thrust before my eyes, forcefully and painfully. For the first time in my life, I felt unclean, and worst of all, I could not escape. In those moments of clarity, I found myself driven irresistably into the arms of the living God.

(Charles Colson, *Who Speaks for God?* London, Hodder and Stoughton, 1985, p.138)

## CHAPTER SIX

### Learning Christ

Formation comes only by being drawn into the form of Jesus Christ. It comes only as formation in his likeness, as *conformation* with the unique form of him who was made man, was crucified and rose again.

This is not achieved by dint of efforts to "become like Jesus", which is the way in which we usually interpret it. It is achieved only when the form of Jesus Christ itself works upon us in such a manner that it moulds our form in its own likeness (Gal 4:19). Christ remains the only giver of forms. It is not Christian men who shape the world with their ideas, but it is Christ who shapes men in conformity with Himself. But just as we misunderstand the form of Christ if we take him to be essentially the teacher of a pious and good life, so, too, we should misunderstand the formation of man if we were to regard it as instruction in the way in which a pious and good life is to be attained. Christ is the Incarnate, Crucified and Risen One whom the Christian faith confesses. To be transformed in His image (2 Cor 3:18, Phil 3:10, Rom 8:29 and 12:2) - this is what is meant by the formation of which the Bible speaks.

*Dietrich Bonhoeffer*<sup>1</sup>

The function of Mister God is to make you like him.

*Anna*<sup>2</sup>

## 1. The Approach to the Study of Revelation

The purpose of this thesis is twofold - first, to demonstrate the close connection between Christian learning and the modes of learning commonly employed as a feature of the ordinary processes of growth and development; second, to examine the relationship between Christian learning and the "subjective dimension" or mode of reception of revelation. It is part of the nature of the task that these two elements of the thesis are closely interrelated, involving the investigation of "Christian learning" from both the theological and scientific points of view. The conclusion reached at the end of the previous chapter was that learning is the outcome of a search for identity. Revelation, similarly, is the outcome of the gift of a new identity, made available by the indwelling Holy Spirit. Thus, while the source of revelation is supernatural, the manner in which it is appropriated is entirely natural. It is necessary now to examine the implications of this position as regards the doctrine of revelation which it entails.

In the early chapters, a detailed model of human learning based on a thorough investigation of the social and psychological processes involved has been presented. In order to achieve coherence, the interpretation of these processes takes place within a single unifying framework. This framework consists of a theological evaluation of human being. In this way, it is claimed, the theology of human life is enabled to draw on the results of scientific investigation and the doctrine of revelation to be set in both anthropological and epistemological context. This model has been used in the definition of "Christian learning" in relation to the ordinary processes of human learning. What remains is to bring the model to the study of revelation, where it is to be used as the key to the interpretation of the processes involved there.

The major theological assumption on which this method of bringing together the investigation of revelation and human learning is based is that there exists a particular type of connection between

the natural and the supernatural, or between nature and grace. This assumption rests on the claim that the features of humanity which are the outcome of divine creation are to be understood as being affirmed rather than disregarded or superseded in the course of the divine address to men and women. The action of divine grace, it is to be maintained, involves accommodation to the conditions of created human nature. The method of the thesis, by which the connection between nature and grace is to be established, accordingly gives central place to humanity. Anthropology, it is pointed out, is a feature of both theology and secular philosophy. The role of anthropology, moreover, is to supply that unifying framework which is required for the coherence of the scientific investigation of human life. The role of theological anthropology, therefore, involves precisely the establishment of that connection between nature and grace which is a necessary part of a theological evaluation of human being. But the thesis advances beyond the use of a theoretical connection between nature and grace as a rule of method to the investigation of the nature of that connection. It is the relation between the Holy Spirit and the human spirit which, it is claimed, constitutes the meeting point of grace and nature. The human spirit is precisely that aspect of human personality which is "by nature" open to the influence of divine grace, and the Holy Spirit is the means by which such grace is made available.<sup>3</sup> To say that revelation takes place in the meeting of Holy Spirit and human spirit is to say that revelation constitutes an element in the relation between grace and nature which takes place in the course of the divine plan of salvation.<sup>4</sup>

The problems to be faced in writing about the knowledge of God are of two kinds and may be termed problems of "text" and "context".<sup>5</sup> The "text" for the investigation of the knowledge of God is the Church's attempt to describe and justify the process of revelation. Yet here, at the heart of theology, no definitive unifying approach is to be discerned. What is found is "a buzzing multiplicity of individual Christian opinion".<sup>6</sup> The same lack of unity is a feature of Christian education. Traditional transmissive approaches are to be found drawing for their justification on traditional propositional views of

revelation while more subject-centred "experiential" methods generally rely on a contrasting experiential model of revelation.<sup>7</sup> Even the definition of revelation is in question between these two approaches. For one, "revelation" means a certain, definitive content, for the other an experience of a particular kind.

Such uncertainty over the manner in which the knowledge of God is available can lead only to a profound malaise in theology as a whole. It has always been the case that theology offered several different "paradigms", each with a different framework for the interpretation of the relation between God and mankind and each one continually modified by the work of successive generations of scholars. But a "multiplicity of individual opinion" on the central subject of the knowledge of God itself would seem to indicate the breakdown even of such unity as the various paradigms and the relatively well-charted relations between them may once have offered. As a consequence, any approach to the problem of revelation from the standpoint of theological "text" is subject to serious limitations. The knowledge of God and the terms in which it is available constitute a foundational aspect of any given theological paradigm and any particular selection from theological tradition which might be used as a starting point for the study of revelation depends for its own authority and validity on the account of the knowledge of God which underlies the particular paradigm from which it is drawn. In order to avoid a vicious circle of this kind, the theological "text" and the problems associated with it must be examined in their broader "context".

The "context" for talk about God is the contemporary intellectual scene, in which a "battle for explanatory control" rages between those approaches which centre on the web of causal connections subject to scientific investigation on the one hand and, on the other, those which take as their point of departure the human experience of subjectivity.<sup>8</sup> These different approaches were examined thoroughly earlier in the thesis. Reasons have been given for preferring an approach to the study of mankind and human knowledge in particular

based on a view of human beings as agents with goals and purposes, of which the construction of individual and corporate world-models by means of which knowledge is expressed is an outcome. This approach provides a coherent and theologically justified framework for the investigation of the relation between learning and revelation which engages with the secular "context" of the study of the knowledge of God by relating the theological discussion of revelation to the problems involved in the study of human knowledge. It also provides a solid theoretical foundation from which the theological tradition may be examined and the various competing assertions to be found there evaluated.<sup>9</sup>

## 2. A Universal Knowledge of God?

One of the dominant influences on the treatment of revelation in Christian theology is the distinction between natural and revealed theology, a distinction brought into prominence by Thomas Aquinas.<sup>10</sup> The idea of natural theology as preliminary and preparatory to revelation is still an important element particularly in Roman Catholic theology, but for many, especially Protestant, theologians the earlier distinction has been abandoned in favour of a distinction between *general* and *special* revelation. The idea of general revelation emphasises the revelatory character of any knowledge of God while maintaining a distinction between the knowledge shared by all men and women as an outcome of divine creation and that given as a result of God's saving activity. Upholders of both natural knowledge and general revelation subscribe to the idea of a universal knowledge of God. The difference lies in the fact that "natural knowledge" is taken to be reliable as far as it goes whereas the outcome of "general revelation" is usually taken to be a knowledge which is distorted because of human sinfulness. Whereas revealed knowledge is taken to supplement and complete natural knowledge, special revelation *corrects* those ideas of God which arise from general revelation. In both cases, however, the act of God in revelation or special revelation is a means of grace, an integral part of the offer of salvation, something which cannot be achieved by either natural knowledge or general revelation. The question for the present section is whether such a universal knowledge can be said to exist and, if so, what is its character.

In Christian theology, the foundations for a belief in a universally available knowledge of God by whatever means are threefold:

1. Arguments from experience: the universal experience of moral constraint and the virtually universal phenomenon of religious belief.

2. Arguments from Scripture: certain passages appear to lend biblical authority to a range of propositions associated with universal knowledge of God, in particular: the availability of a knowledge of God in creation and providence which may provide the

basis for a human "search" for God, and a recognition of the universal awareness of moral demand as the equivalent of divine legislation.<sup>11</sup>

3. An argument from revelation itself: without a generally held concept of God prior to revelation, revelation would be unintelligible. Before the more particular ideas to be conveyed in revelation, such as God acting in various ways for particular purposes, could be understood, there must exist a generally held concept of "God" to which such ideas could be referred, and this concept, it is argued, could only arise as the result of a prior revelation.<sup>12</sup>

Great difficulties arise, however, in specifying what this universal knowledge of God could possibly amount to. Three possible ways of understanding the concept of general revelation may be suggested:<sup>13</sup>

1. A revelation of God in nature. The problem here is on the subjective side. What is mankind supposed to understand from nature and how? As Hume pointed out, the argument by analogy from human creativity does not get us very far - it is as easy to ascribe the creation of the world we experience to a committee of bunglers as to a single omnipotent God.<sup>14</sup> Without some divine illumination on the subjective side any revelation conveyed by creation remains vague and ambiguous.

2. A propositional revelation, given to all. But the diversity of belief and expression displayed by the world's religions makes it difficult to uncover the exact content of such a revelation.

3. The knowledge of God as a feature of human psychological make-up. John Baillie was among those who argued for a kind of innate knowledge of God or "mediated immediacy".<sup>15</sup> The knowledge of God, he argued, is analogous to our knowledge of other selves. The existence of another rational person is incapable of proof - some portion at least of our belief in the existence of others with minds like ourselves rests on intuitions which are incapable of logical explanation. In the knowledge of others, intuitive and discursive elements combine. In the knowledge of God there is, he believed, an intuitive and a discursive element. God is known "in, with and under" other objects of experience. There is an immediate, intuitive knowledge of God, corresponding to

the intuition which tells us of the presence of another person, but that knowledge becomes effective only as it is mediated by our knowing of the world. In every act of knowing, he believed, four subjects of knowledge are present together, the self, others, the world and God. Thus, consciousness of God arises *through* experience.

The difficulties with all three of these attempts to give content to general revelation arise from the fact that they depend on an ideal of *explicit* knowledge. However, Baillie's analysis of the knowledge of others, which has been more extensively discussed by philosophers since he first wrote, moves in the direction of the concept of a different type of knowledge.<sup>16</sup> What is proposed here is that the idea of a general revelation becomes intelligible when such a revelation is seen as an element of *tacit* rather than explicit knowledge. General revelation is something rooted in the necessities of the human cognitive make-up, an awareness of God not derived simply from experience but from the need to set experience within a comprehensible frame of reference. It is here that our analysis of human cognition makes its contribution.

One of the roles of the schema in the process of learning is the provision of a range of expectations.<sup>17</sup> The schema represents "set" or orientation - the predisposition to respond to those situations to which that particular schema is applicable in a certain manner or within a certain range of possible reactions. The schema provides an "outline" of the situation, a readiness to respond to information or experience of a particular type. If revelation is to be received by means of the ordinary mechanisms of human cognition, what is required is that there should exist for every individual a schema representing a readiness for or expectation of God. This is the schema which will come into play when revelation takes place.

The individual's total psychological world, within which all his individual schemata operate, is expressed by a model of what psychologist of religion James Fowler calls the "ultimate environment".

Fowler uses a dramatic metaphor to describe the "ultimate environment". It is, he says,

The largest theatre of action in which we act out our lives, Our images of the ultimate environment determine the way we arrange the scenery and grasp the plot in our life's plays, Furthermore, our images of the ultimate environment change as we move through life, They expand and grow, and the plots get blown open or have to be linked in with other plots,<sup>18</sup>

To the individual's ultimate environment there corresponds, for the culture or perhaps for particular cognitive communities within a given culture, the "symbolic universe".<sup>19</sup> Symbolic universes are shared schemata, which play the role of the perspective of the given reference group, a shared "ultimate environment".

Such schemata provide a perspective on the unknown transcendent. Apart from the positivist tradition, most philosophers have recognised limits to the human ability to interpret experience. In the quest for self-understanding, concludes Stephen Toulmin, the philosopher may have to become a myth-maker, since it is in the form of myths that insights beyond the range of theorising have generally been preserved.<sup>20</sup> Such myths represent attempts to describe the nature of what lies beyond the possibility of direct experience. Individuals and societies must construct an image of the transcendent for themselves on the basis of inference from what appear to be the salient features of experience.<sup>21</sup> Fowler describes the forms such constructions take in a variety of ways. He draws attention to "centres of value", "images of power" and, in particular, "master stories". He describes a conversation in a taxi-cab with a man who told him, "The way I see it, if we have any purpose on this earth, it is just to keep things going. We can stir the pot while we are here and try to keep things interesting. Beyond that, everything runs down: your marriage runs down, your body runs down, your faith runs down. We can only try to make it interesting."<sup>22</sup> This man's "master story" could be summed up, Fowler suggests, in the word *entropy*. Such fundamental beliefs form the backdrop against which the significance of life and of the various commitments it entails are measured. They may be tacit and unexamined

or explicit in story, symbol, myth, ritual, philosophical theory or full-blown religious commitment.

One of the most important features of such master stories is that they are self-involving. The need for over-arching explanation is more than simply cognitive, but also emotional and spiritual. They are the means by which men and women attempt to cope with the unanswered questions of human existence such as the problem of evil and apparently purposeless suffering, and the questions of human significance and destiny. The "ultimate environment" or "symbolic universe" expresses a particular set of beliefs about the place of the individual or of mankind as a whole in the scheme of things. It represents an orientation to the world as a whole along the lines of Erikson's "basic trust".<sup>23</sup> Since they are self-involving, master stories form an element of the identity schema. The way individuals and societies picture the transcendent dimension, and in particular the nature of God, is an element in corporate and individual identity. It follows that every individual and society can be said to have a schema for God, not in the explicit sense of articulated religious belief, but as a feature of tacit knowledge. It consists of a readiness to respond to questions about the origin, significance and destiny of the world and of a certain range of expectations generated by the need for an orientation towards existence and experience taken as a whole.

The presentation of a model of this kind helps to ground the various theological assertions relating to general revelation by requiring their translation into the terms of a theoretical framework for human cognition. Some of these assertions are thus seen to be confirmed by the model and some rejected, in the sense that to continue to maintain such a position would require a different model of cognition from the one presented. Several theological propositions can be thus affirmed and explained:

1. The existence of a universal sense of deity "indelibly engraven on the human heart".<sup>24</sup> This is to be explained in terms of the universal recognition of problems requiring solutions which lie beyond the terms of human experience.

2. The distortion of such a sense of deity as a result of human sinfulness.<sup>25</sup> The effects of sin on human cognition were described in terms of the model of cognition presented here in the previous chapter.<sup>26</sup> Its result is the confinement of each individual and society within a relative point of view, such that final and definitive knowledge is impossible. It could be achieved only as the result of the realisation by an individual or group of their true identity, such that the quest for meaning in the universe was brought to a definitive end.

3. The physical and human creation may be affirmed as a *witness* to the existence of God, in the sense that the superhuman power and evidence of design involved require some kind of explanation, while conceding, with Hume, that such evidence does nothing to *compel* belief in a personal divine creator. The idea of a "natural theology" consisting of the inference of reliable propositions about God from the evidence available in creation is to be rejected.

4. The idea that all experience is to be seen as potentially revelatory is affirmed in a particular sense. The identity schema, which includes the awareness of the transcendent and the range of problems associated with it, forms the ultimate context for all experience, so that all experience may potentially be related to one's "images of power" or "master story".

5. General revelation is to be understood as an outcome of human creation in the divine image.<sup>27</sup> The image of God, in this model, consists of the possession by men and women of an underlying "true self", the creator of the identity schema. It is in the search of the "true self" for its real nature that the requirement for the knowledge of a transcendent ground and goal arises.

6. Every person may be said to exist *before God* in the sense that their life is governed by a search for identity which is, at one and the same time, a search for God. Men and women are thus conditioned by their relationship to God even though the terms of this relationship consist, on the human side, of ignorance. Brunner termed this aspect of human existence "responsibility".<sup>28</sup>

There are also a number of assertions from the theological tradition to be rejected on the basis of this model:

1. The possibility of a "natural theology".

2. The idea of a universal belief in God or awareness of God. This is expressed in assertions such as that of Paul Tillich: "God is the presupposition of the question of God."<sup>29</sup> The idea is to be rejected, at least in the sense which Tillich appeared to intend. There is a sense in which the discovery of God is "the discovery of someone we knew all along"<sup>30</sup> - it lies in the fact that we are created in his image. But the awareness which prompts the question of God is not of God himself, but of the unknown transcendent.

3. The idea of the "categorical supremacy" of God.<sup>31</sup> The mistake here is to identify God with the terms of a particular description of the "ultimate environment". For Charles Hartshorne, for example, "God is a name for the uniquely good, admirable, great, worship-eliciting being,"<sup>32</sup> while for Tillich, Truth is the presupposition of philosophy and God is Truth.<sup>33</sup> Paul Sponheim investigates the themes of the Real, the Beautiful and the Good, moral and religious experience with a view to ascertaining whether God's "incognito" is to be discovered in any of these. In so doing, he is following the tradition Tillich calls the "ontological" type of philosophy of religion, the search for signals of the divine in human experience. This approach is an attempt to set aside one of the fundamental insights of the Reformation. A distinction has been made between the possibilities of natural knowledge of God and general revelation. The difference lies in the fact that while natural knowledge may be assumed to be a reliable guide to the divine nature, such knowledge of God as remains as a result of general revelation will be in error. Human ideas of Truth, Beauty and so on do not serve as incognitos for the divine. They are, rather the focus of what Richard Niebuhr called those polytheisms and henotheisms which men and women admit as substitutes for the knowledge of the true God.<sup>34</sup>

A distinction is thus to be maintained between the sense of a question involved in human existence, with its corollary of a widely shared search for deity, and the actual knowledge of God. The

awareness of a transcendent dimension in human existence and of the need for an explanation for that dimension is a feature of *tacit* rather than *explicit* knowledge. In cognitive terms, it consists of an *expectation* of a certain aspect of identity, that which places the person or society in an overarching scheme of things and which accounts for personal and corporate origin and destiny. Human explanations of all kinds - including the philosophical systems with which the early Christian apologists were faced, and the great world religions which form an increasingly important element in the experience of modern western men and women - may contain a significant degree of truth, arising out of profound insight into the human condition. But such truth does not, in itself, constitute revelation. The natural world becomes a witness to divine creation only in the light of a definitive revelation of divine truth. In the same way, such truth as exists in the world's great religious and philosophical systems is recognised as truth only in the light of revelation itself. The awareness of a question of God or, in Calvin's terms, that sense of deity engraven on the human heart, constitutes an expectation of further revelation to come and a possibility of receiving such a revelation. But it does not of itself constitute such a revelation. Nor does anything in this state of things "require" a revelation in the sense of compelling God to act. But "general revelation", in whose interpretation all men and women err, requires a "special" or definitive revelation for its completion. Such a revelation can be expected both to complete and to correct ideas of God based on general revelation. To the nature of that definitive revelation we now turn.

### 3. Jesus Christ as the Content of Revelation

The term "revelation" may be defined as an action of God, an authoritative content or as a human experience. The existence of competing models in which the definition of revelation fails to embrace all three aspects is a problem for theology. The construction of a model of revelation involves the harmonious integration of these elements within a coherent understanding of revelation as divine communication. This requires that the content of revelation be understood in such a way as to be capable of and fitted to communication by means of the processes proposed as being those of both divine action and human reception. The detailed examination of human learning and human constitution in the foregoing chapters forms the background, therefore, for an examination of the content of revelation. Of the points made there, the first to note is that revelation is to be understood as a definitive "image of man".<sup>35</sup> It is a tacit image of man which is expressed in any particular culture or set of social institutions, which provides the unexpressed foundation of every significant paradigm in the natural or social sciences and lies behind the hermeneutical principles of historical or literary interpretation. Behind the great questions of science, literature, history or philosophy lies a pre-reflective understanding of the nature of mankind finally irreducible to explicit expression. The most sophisticated philosophical system fails to give adequate expression to that elusive quality, "humanity", with the result that the philosopher is obliged to look to the creation of myths for the expression of the deepest levels of meaning in human life. The content of revelation may be understood precisely as the information required to set human speculation in a single unified framework.

The anthropological question at the heart of culture is paralleled by the role of the elusive personal subject as the source of cognitive and affective coherence. The attempt to elucidate the pre-reflective image of man within a given culture is paralleled by the quest for secure personal identity. This quest involves an openness to the transcendent, expressed in the construction by an individual of an

"ultimate environment". It is at this level, the deepest level of human personality, that revelation is appropriated. This is the level of the personal subject or unknown "I", where the quest for secure identity takes place. As the definitive answer to that quest, revelation consists of the gift of personal identity. But since it is given at the level of the personal subject, the creator rather than the object of the identity schema, revelation is given not as explicit but as tacit knowledge.<sup>36</sup> Although never known directly, personal identity forms the governing principle for the interpretation of experience. In the same way, the content of revelation, given at the level of personal identity, is not known directly, but must be gradually appropriated in the course of subsequent learning as the "ultimate environment" changes in such a way as to express the new self-understanding.

Before the content of revelation can be expressed, a process of interpretation is required, in which the fallible schemata based on previously incomplete or erroneous images of man, those of contemporary philosophy and culture, provide the categories necessary for its comprehension. The appropriation and interpretation of revelation thus involves the twin processes characteristic of the learning process, assimilation and accommodation. The content of revelation, first received at the level of the personal subject as tacit knowledge, is initially understood with the aid of and in the terms of a prior understanding of the human condition. But the assimilation of revelation to the categories of contemporary philosophy and culture leads to the complementary process of accommodation, in which those categories are themselves transformed by the implications of revelation. The appropriation of revelation is thus a progressive process, not immune from the possibility of error, in which the individual, the community and, conceivably, the culture is gradually formed in its image of man.<sup>37</sup> The term "revelation" may be used in a special sense to refer to the divine action by which a new identity is made available at the tacit level. In this sense, the "content" of revelation is the content of that new identity. In a broader sense, "revelation" may be used to describe the whole process, both individual and corporate, by which that identity, once given, is

appropriated and understood. When used in this sense, "revelation" is the equivalent of Christian learning and the "content" of revelation consists of both responses and witness to that gift of identity which lies at the heart of the wider process. Wherever possible, the term will be used in the narrower sense to distinguish it from Christian learning.

Like the normal processes of human learning, the appropriation of revelation expresses the autonomy proper to human beings in their relationship with God. Human autonomy is not abolished or eclipsed in the reception of revelation, but upheld and established. The power of agency characteristic of human beings is expressed by the possession of spirit. It is spirit which sums up the essence of humanity, both in its distinction from nature and in the unique relationship of man with his Creator. The spirit is the centre of both agency and self-knowledge, the locus of that elusive "I" which is the seat of true identity. The spirit is also that element of human personality uniquely open to the influence of God by the Holy Spirit. It is through the agency of the Holy Spirit that revelation is made available. Revelation takes place at the deep level of the personality where the Holy Spirit meets, touches or, in Moule's words, "impinges" on the human spirit.<sup>38</sup>

The relationship between Holy Spirit and human spirit is, therefore, the hinge upon which the whole thesis turns.<sup>39</sup> It is on this relationship, it is maintained, that the possibility of revelation rests. A distinction is to be maintained between the created spirit as the principle of human life and the uncreated Spirit as the principle of divine life.<sup>40</sup> It is this distinction which, in theological terms, rules out the identification of the human quest for meaning and the awareness of the transcendent resulting from it with the knowledge of God. Knowledge of God does not belong to men and women by virtue of their relationship with God as dependent creatures. It is given only as a result of divine grace. A special revelation, the outcome of a particular movement of divine communication is required.<sup>41</sup> The Holy Spirit is the agent of this special revelation; what, then, is the content which the Holy Spirit reveals?

Of the answer to this question, the New Testament leaves us in no doubt. The Holy Spirit reveals Christ. The Holy Spirit is a new form for the present age of the outreach of God to men recorded in the pages of the Old Testament and brought to fulfilment in Jesus Christ, a "perpetual extension of the Incarnation."<sup>42</sup> The Spirit's work is to enable men and women to know Christ. The Spirit is given as a result of the completion of Christ's earthly ministry. Jesus is first the unique bearer of the Spirit, the one upon whom the Spirit descends and remains. His ministry is empowered and led by the indwelling Holy Spirit. Having completed the ministry for which he received the Spirit, Christ pours him out upon his disciples for the continuation of that ministry in and through them. Since he is the fulfilment and completion of God's purpose, the Spirit has nothing to communicate except what is revealed in Christ. Christ is the incarnate truth, the Spirit's role is to make him known.<sup>43</sup>

It is for this reason that there is so much apparent overlap between the work of Christ and of the Spirit in the believer's life. To be "in Christ" is to have the Spirit, not to have the Spirit is not to belong to Christ.<sup>44</sup> Congar provides a list of Pauline texts in which this overlap or duplication is apparent.<sup>45</sup> We are justified in Christ and in the Spirit, we are in Christ and Christ is in us, we are in the Spirit and the Spirit is in us, we have fullness of life in Christ and we are filled with the Spirit, and so on. Despite the similarities, however, there remains a clear distinction. We are, for example, never called a Temple of Christ or members of the Holy Spirit.<sup>46</sup> It is Christ in whom God was incarnate, he who reigns over God's kingdom. The Spirit's work is to apply the benefits of the objective work of Christ in the believer's life, to make his current heavenly reign an earthly reality through the ministry of his disciples.

The content of revelation is, therefore, to be taken as the Person of Jesus Christ. It is to be noted that his role, as it has frequently been understood, answers precisely to the requirement that the content of revelation be an "image of man". Christ may be described as the "proper man" who reveals the nature of humanity as God intends it, the

definitive image of man whose humanity and in particular whose relationship with God serves as a pattern for human self-understanding.<sup>47</sup> This important aspect of God's action in Christ is expressed in the New Testament in the use of the phrase "the image of God" to refer to Christ. In the Old Testament, the phrase is used to describe the essential created nature of humanity. In the New Testament, although it occurs in its old sense in one or two places, it is Christ who is, primarily and properly, the image of God. The phrase is used to describe his singular dignity, the relation to God the Father which is his alone, his divine Sonship. But secondly and derivatively, the image of God is also that into which the believer enters by virtue of faith in Christ.<sup>48</sup>

Whereas in the Old Testament the image of God is unknown, in the New Testament, it is definitively known in Jesus Christ. On the one hand, Christ represents the embodiment of human possibility. But on the other hand, he represents a decisive break, a new possibility previously unknown to men and women. This new possibility arises as a result of Christ's victory over sin. In terms of human psychological make-up, the sinful nature of mankind is expressed by the loss of identity, the result of which is that human knowledge is constructed around and human action springs from a centre in the individual as an expression of the search for authentic identity.<sup>49</sup> Christ, with his personal centre in the love and the will of God the Father, breaks the confinement brought about by the sinful condition of mankind. The relationship with God made possible by this victory is spoken of in the New Testament as a "new creation".<sup>50</sup> In the new creation, the terms of the human relationship with God are no longer based on the image of God in its Old Testament sense, but on the New Testament sense, in which the image is definitively revealed in Christ.

One of the most important passages to describe Jesus in this way is Colossians 1:15f. Commenting on it, G.B.Caird writes,

He is man as God from the beginning designed man to be, God created man to be in his own image, reflecting his own character and responding to his love, and intended that he should hold pre-eminence

over the rest of creation (v,15). All that God has made,, belongs to man's world and must be understood in relation to man and his destiny. Christ,, is the embodiment of that purpose of God which underlies the whole creation, and so he applies the principle of coherence and meaning in the universe (vv,16-17). These staggering assertions can be made about the place of the man Jesus in creation because in the experience of the Church he holds precisely this place of supremacy in the new creation. He is head over those who through his death and resurrection are incorporated into unity with him, and he is the source of their new life.<sup>51</sup>

Three points in particular should be noticed in this exposition. First, Caird supplies, as part of the theological background for the exegesis of this text, the important assertion that the image of God in mankind includes the supremacy of men and women in creation. That supremacy is a vital element in the purpose of God in creation and provides a key to the understanding of the action of God in salvation. Its effect is to allow the intervention of God for the restoration of the relationship between creation and himself without the disruption of the lawfulness inherent in creation.<sup>52</sup> Secondly, the place of Christ as the image of God is an element of the *new* creation, whose relationship to the old creation is that it both fulfils and supersedes it. As Caird again comments,

In the life, death and resurrection of Christ, God the Creator had again been active, not merely repairing the ravages of the Fall, but bringing into existence, and that for the first time, that manhood in his own image which it had always been his purpose to create.<sup>53</sup>

Finally, the incarnation is of central importance. It is the "life, death and resurrection of Christ" which are the instruments of the new creation. It is the *incarnate* Christ who is the image of God, and the incarnate Christ, therefore, who is the content of revelation.

This is a point which it is necessary to discuss at some length because of the strong tradition of interpretation, particularly associated with Lightfoot, in which the title "image of God" when applied to Christ refers to his place in the *old* creation as the eternal pattern of which mankind is a copy, rather than as the pattern

of the new creation by virtue of his incarnation, death and resurrection.<sup>54</sup> Lightfoot had argued that this passage, like the similar ones in Hebrews 1:1-4 and John 1:1-4, is an example of "Wisdom or Logos Christology", in which Christ is portrayed as the personification of divine Wisdom. In that case, the position of Jesus as image of God would be his *by nature*. But Caird points out that the New Testament understands Jesus' relationship to mankind as his *by appointment*. In particular, this applies to the title "the first-born", used in Colossians 1 and derived from Psalm 89. In the psalm, this is a title bestowed on the king as a result of divine appointment and this is its meaning when used in the New Testament. Christ is "designated" Son of God by his resurrection and elsewhere, including verse 18 of the present passage, he is the first-born "from the dead". Most important, in Ephesians 1:20-23, which may be taken as a parallel passage to that in Colossians, written if not by Paul himself by a disciple who was close to him and knew his mind, the cosmic supremacy of Christ is clearly based on his *manhood*. Christ achieves by his earthly life, death and resurrection, the proper lordship of mankind.

The Wisdom tradition, which lies in the background of the passage in Colossians is not to be simply ignored, but it must be placed in its context in the thought of Paul particularly and the New Testament generally. The pre-existence of Christ lies always in the background of Paul's thought. But it is always interpreted in close relation to his redemptive work. Christ is the one who, at the right time was sent by God for the salvation of mankind.<sup>55</sup> The Church, indeed, is chosen in Christ before the foundation of the world.<sup>56</sup> It is the redemptive significance of Christ which controls the understanding of his eternal status rather than *vice versa*. Christ from all eternity is God-for-us, the one destined both to bear and to share the divine image. There is no need, then, to seek for a background in the speculations of Hellenistic Judaism.<sup>57</sup> Wisdom is to be understood, despite the tendency to personification in some passages, as a divine *attribute*. It is an attribute, moreover, which God *intends to communicate with men*. It is not surprising, therefore, that the pattern of humanity in the new creation should be a man in whom wisdom makes

her home.<sup>56</sup> And this is expressed in the fact that Christ is uniquely endowed for his ministry with the Holy Spirit.

It is the incarnate Christ, endowed with the fulness of the Holy Spirit, who provides that pattern of humanity required by human beings as the key to human identity. It is in his relation to the Father, displayed in his life, death and resurrection, that the questions of human nature and destiny pursued in the course of learning and identity formation find their definitive resolution. It is Jesus Christ, therefore, who is to be understood as the content of revelation, the exemplar for human identity.

#### 4. The Historical Christ

The conclusion of the previous section has been that it is the incarnate Jesus Christ who is the content of divine revelation and the exemplar for the formation of Christian identity. This position involves a claim about the role of history in revelation and in human and particularly Christian formation. The problem is not a new one. Throughout the New Testament the assumption is to be found that Christ, who even for the first Gentile converts was already an historical figure from a semi-alien culture, was nevertheless available as a focus of faith. The sense in which Christian revelation may be said to be historical depends, however, on the status to be accorded to historical knowledge. An account of historical knowledge can only be given on the basis of a more comprehensive account of human knowledge in general. For a justification of the place of the historical Jesus in revelation, we turn, therefore, to the insights to be gained from the preceding examination of cognition.<sup>59</sup>

One of the conclusions of such an examination is that history is particularly appropriate as a medium for revelation. Of all the sciences dealing with human life, history deals with men and women at their most concrete.<sup>60</sup> It is the whole person rather than an abstracted aspect of personal life which is the subject of examination. The material of history consists of a web of causal connections of particular kind. These connections are not those of natural causation familiar to the natural scientist. They consist of a complex interplay of psychological motivation, a "constant interaction of conscious efforts."<sup>61</sup> The web of historical causality is thus the outcome of that elusive quality of human life, the power of agency, the concept earlier shown to be central to the problem of human nature. History is a mirror or extension of the form of human self-understanding. One of the most powerful justifications of the historical enterprise is its contribution to the study of human identity, through the infinite variety of motivation and outcome which forms its subject matter. History is the hermeneutical science *par excellence*. Its goal is the discovery, by means of the structure of

cause and effect in human affairs, of the key to the nature of human action and human being. If the definitive image of man is to be revealed, then not only is human history the appropriate medium for its revelation, but the methods of the historian best suited to its reception.<sup>62</sup>

As a further step, this relation of historical connection to human agency provides the key to the understanding of the historical nature of revelation. The involvement of God in human life takes place at the level of agency. It comes about by means of the infusion of a divine principle of action. The Holy Spirit is said to "come upon" particular men and women to enable them to carry out God's will.<sup>63</sup> Such interventions take place, however, without limiting the freedom of human decision and thus without violating the laws of historical connection.<sup>64</sup> In the person of Jesus Christ, the man upon whom the Spirit descends and remains, this process is brought to fulfilment. The character and purpose of God, displayed within the compass of a particular human life, thus become available to the methods of historical enquiry.

Philosophy of history takes the form of comparison and criticism of historical method. For this reason, its study is closely bound up with both the writing of history itself and the examination of the work of particular historians.<sup>65</sup> Two distinct orientations are to be discerned. These form the subject respectively of substantive and analytical philosophy of history.<sup>66</sup> In the case of the substantive philosophy of history, the "meaning" of the historical process is sought for in an overall interpretation of historical movement on a broad scale. Such attempts to fit history into a general pattern fall into two types, the cyclical, represented by writers such as Arnold Toynbee, and the linear, represented by various versions of the theory of historical progress.<sup>67</sup> Alternatively, any such generalisations may be eschewed in favour of allowing the events of history to speak for themselves and their meaning sought in the pattern of internal connections and the light thrown by such connections on human character and motivation. The difference between the two approaches is

a question of balance or emphasis. Neither orientation can escape the dialectical relation between evidence and presupposition. While he brings to his task a particular world-view, the historian must be prepared for that world-view to be corrected and refined in the course of engagement with the evidence itself. One orientation represents a relative confidence on the part of the historian in his particular view of human nature and destiny; the other a confidence in the ability of the study of historical events to mould and correct that world-view.

In terms of this typology of philosophical orientation, the biblical writers belong to the first. Theirs is a substantive rather than analytical philosophy of history, characterised by confidence in a particular tradition of interpretation. The main characteristic of this tradition, or set of traditions as they developed within the history of Israel and were taken over by the Christian Church, is the claim to interpret history from the point of view of the purposes of God. The concern of the biblical writers was not to allow the past to "speak for itself" in the manner of the ideal of the "analytic" historian. Their purpose was to use an account of historical events as a means to express the nature and purposes of God. At the same time, they believed that certain events, in particular the deliverance of the Israelites from Egypt and later the Babylonian exile, were themselves the means by which God's character was revealed. The knowledge of God becomes available in history as the outcome of a process of both event and interpretation.<sup>68</sup> The involvement of God in events is a product of the intervention of a divine principle of action in the cycle of human purpose and outcome. But revelation is incomplete without a similar divine involvement on the side of interpretation. Biblical history is "prophecy", the result of the interpretation of past and present events by men (and possibly women) who claimed to have "stood in the council of God"<sup>69</sup> and whose work was further refined and developed within the several traditions to which they gave rise.<sup>70</sup>

While biblical history is comparable to history as it is understood in the modern age, in that consists of a pattern of event, interpretation and reinterpretation, there is also a decisive difference. The historian deals with his material with the aim of discovering and/or commending a particular understanding of the human condition. The biblical writers present their material in the confidence that the events with which they deal and the interpretation offered spring from and are themselves a part of the revelation of the nature and purpose of God and his relation to men and women. In relation to the modern historian, the Bible claims to offer a definitive perspective on human nature. From the perspective of revelation, Biblical history may be said to be the centre of world history in that it furnishes the key to the understanding of all other history.<sup>71</sup>

With the ground thus prepared, an evaluation is possible of the role of the historical Jesus in revelation. The New Testament was written from the standpoint of the Easter faith. The experience of the resurrection and the outpouring of the Holy Spirit provide a framework for the interpretation of the life of Jesus not available at the time the events of his life actually took place. But this fact does not make such a framework inauthentic. It is, in fact, a continuation of the prophetic framework within which biblical history is written. The work of the Holy Spirit in the Christian believer enables him to interpret Jesus as "the Messiah, the Son of God" and fulfilment of the Old Testament Scriptures.<sup>72</sup> The pattern of event and interpretation is continued. The incarnation of Christ is the event in and by which all previous revelatory events are fulfilled. But the interpretation of this event is not now available only to a select group of inspired individuals but to all who, as a result of their response to Christ, receive the indwelling Holy Spirit.<sup>73</sup>

The incarnate Christ who is the content of revelation is thus to be understood as a figure in history. Access to him is by means of history. It comes through the written record of his life, his words and his impact on those around him. Moreover, a process of historical

interpretation is required in order to understand him better. His actions and teaching can only be correctly understood in the context of his own culture. The process of historical study continues to yield valuable results in this direction. But no amount of confidence in the significance of Jesus' life can render the judgements on which that significance depends invulnerable to the possibility of reinterpretation in the light of further evidence.

At the same time, Jesus is a super-historical figure. His life is the culmination of a process of divine revelation, in the light of which the meaning of history is disclosed. This means that any interpretation of Jesus is, like the "master stories" in which fundamental beliefs are expressed, potentially self-involving. The gospel narratives have what Edward Farley calls "intrinsic facticity": they present facts which involve the reader personally and require a decision.<sup>74</sup> "These things are written," concludes the Fourth Evangelist, "that you might believe..."<sup>75</sup> Mark's gospel, it has been remarked, revolves around the question, "Who do you say that I am?" The question concerns not simply the identity of Jesus but of oneself as well. The answer the reader gives will express not a disinterested evaluation of Jesus, but willingness or otherwise to become a follower, to re-evaluate one's own life in the light of Jesus' claims.<sup>76</sup> For the reader who is personally involved, the question, "What is man?" which lies at the heart of historical interpretation has become, "Who am I?" The history is no longer impersonal and disinterested. It is, in Richard Niebuhr's phrase, "internal history."<sup>77</sup> The definitive self-understanding offered by Christian revelation forms the framework within which all history, including the history of Christ, is interpreted. Within this framework, the particular historical facts of Christ are capable of revealing, to the person whose own identity is in the course of formation by means of them, a set of truths of ultimate significance.<sup>78</sup>

## 5. Conformation

While the Jesus of history is available to the historian in the same way as any other historical figure, his availability to the Christian includes an additional dimension, as a result of the presence of the indwelling Holy Spirit. According to the writer of the Fourth Gospel, the Spirit's work is to "glorify" Jesus, to "take" the things of Jesus and "show them" to the disciples.<sup>79</sup> It is he who enables the Christian believer to understand the significance of the events of Jesus' life, death and resurrection. He does this by making available to the believer a pattern or exemplar of human identity which is none other than the "image of God" in the shape of the incarnate Jesus Christ. The believer may draw upon this exemplar in the interpretation not only of the life of the historical Jesus but of his own life. This exemplar of human life offers the believer a new perspective on his own life and experience, enabling him to relate them to the nature and purposes of God. However, such a perspective takes form only gradually in the course of a Christian's ongoing experience. What is given in revelation is not a whole new cognitive make-up, a whole new set of schemata in exchange for the old and fallible beliefs and values based on the believer's previous faulty identity. What is given is simply the new identity, and that at the deepest level of cognitive make-up, at which it is not itself open to direct introspection. It is only in the course of Christian learning, both informal and formally structured, that this new identity begins to influence the believer's world-view, his attitudes, beliefs, values and behaviour.

The consequence of this position is that revelation is to be understood as an aspect of salvation. In Protestant theology, "salvation", which can also be understood as "healing" or "making whole", traditionally involves two aspects, "justification" and "sanctification". "Justification" may be seen as "objective", involving the restoration of a relationship between God and mankind and conferring upon the believer a new status before God. "Sanctification" is "subjective", involving an actual change in the life of the believer.

Without sanctification, justification is incomplete and inauthentic. A merely forensic theory of the atonement fails to relate either the need for or the means of amendment to the action of God in Christ. On the other hand, without justification, sanctification is impossible. The problem is to relate the two so as to show that they imply one another as parts of the one process of salvation or making whole. It is this which, it is claimed, the model advanced here achieves.

Insofar as it consists of an ongoing present process, the implication of the model advanced here is that the "subjective" dimension of revelation, involving the gradual conformation of the believer to the image of Christ, is an aspect of sanctification. The non-believer is trapped within an inauthentic self-understanding. But with the gift of the Holy Spirit a new and liberating self-understanding becomes available. This new identity must be progressively worked out in the life of the believer making possible a gradual change in both inward self-image and outward behaviour in the direction of the character of Christ himself.<sup>21</sup> The pattern of such change is that what the believer is before God by virtue of incorporation into Christ he should gradually become before men and women by means of inner transformation. The public self is to reflect increasingly the nature of the new life which springs up from the hidden depths of the personality, the inner person, where the Holy Spirit dwells. Further, while the new status of the Christian and the ongoing process of conformation to Christ may be said to represent both a past and a present dimension, there is also a future aspect to salvation and, with it, revelation. The new identity "in Christ" is never known for itself, but only as it is reflected in the believer's altered self-image. There remains, however, the expectation that at some future time, in the words of St. Paul, "I shall know, even as I am known."<sup>22</sup>

The dynamic of this process of transformation may be illustrated most appropriately by the experience of penitence. Repentance constitutes the gateway to the Kingdom of God. It was repentance which lay at the heart of the preaching of John the Baptist, of Christ

himself and of the apostles. But genuine penitence for sin is difficult to attain. Indeed, without the Incarnation and its extension in the work of the Spirit, it may be claimed to be impossible. Christ, however, shoulders the burden of a life of perfect penitence. Then this attitude of penitence before God is made available to humanity by means of the gift of the Spirit.<sup>21</sup> Penitence is that attitude toward God which places a person in right relationship toward him. In terms of the description of human psychology advanced above, it is to be characterised not as one attitude among others but as a vital aspect of self-understanding in relationship to God.

The experience of penitence suggests a dual role for the Holy Spirit in the process of conformation. First, the Spirit enlightens. An example has already been given of the result of the Holy Spirit's work of conviction of the unbeliever and its result, the complete reappraisal of life and values.<sup>22</sup> What the Spirit does is to make available that view of the self in relation to God which is the source of true knowledge. He thus enables a reorientation of the individual's world-model such that the attitudes and values come increasingly to represent those of Christ. Second, the Holy Spirit enables. The Spirit makes available to the individual a divine centre of agency or principle of action by means of which he is enabled to do things he would otherwise find impossible.<sup>23</sup> Repentance is a continuing necessity in the life of the believer as attitudes displeasing to God are continually discovered, requiring continual dependence on the Holy Spirit. While it is possible for the Christian to agree with God at the level of the understanding, to change his mind about his actions or motives, the underlying change in attitude which will make the difference to his behaviour is beyond his power to accomplish, lying deeper than voluntary control is possible. In these cases reliance on the Spirit's power is a necessity. The believer can change his mind, but this *metanoia* must lead to the prayer that God, by his Spirit, would accomplish the necessary change of "heart". In making such a prayer, the believer acknowledges the lordship or authority of Christ over the particular area of life in which the sinful attitude or action

was discovered, resolving to take the model and requirement of Christ as his own.<sup>e4</sup>

What the Holy Spirit does not do is to take away human autonomy. The divine principle of action which he makes available never becomes a compulsion.<sup>e5</sup> The preservation of human freedom over against the Spirit allows the possibility of misunderstanding and rejection, of differences of interpretation and degrees of obedience. The enlightening work of the Spirit may enable a person to see with a clarity otherwise impossible the need for change. But it is up to the Christian at each juncture to choose whether to follow the demands of Christian character or his own natural inclination. The experience of forgiveness, for example, is to lead to the willingness to forgive others, and faith in the generosity of a heavenly Father to the ability to live without material anxiety and to give generously to others. The extent of actual transformation reveals the genuineness of his Christian commitment. Subsequent experience and subsequent learning, whether formal or informal, will reflect the new identity only to the extent that the individual and his teachers and mentors are faithful to their profession. Even though its roots lie at the tacit level, the initiative in Christian formation never passes from the believer himself. It cannot be otherwise, since the preservation of human autonomy is essential to God's ultimate purpose. Freedom is essential to love; the creation of a race of beings capable of love demands their autonomy.

There may be considerable barriers to personal change in the direction of conformation to Christ. It has often been remarked that lack of experience of a stable family during childhood prevents the adult from relating satisfactorily to God as a heavenly Father. Between intellectual comprehension of the biblical assurances of God's paternal (and maternal) love and the testimony of the Holy Spirit at the deepest levels of personality may lie a lifetime's accumulation of attitudes to oneself and others which flatly contradict this revelation. Thus, while Christian conversion and nurture is comparable in many respects to secondary socialisation, in others it is more

comparable to resocialisation. While some aspects of Christian growth involve the relatively painless process of the addition of further skills and insights, a process of gradual internalisation of Christian norms, at other times, the complete reworking of previous areas of personality and understanding is required.<sup>86</sup> The pattern of this type of change is one of death and rebirth, as former ways of thinking, feeling and behaving are renounced in favour of a set of new responses based on Christ as exemplar.<sup>87</sup> Like any process of resocialisation, this kind of painful transformation requires a degree of affectivity and corporate support. As the family is the matrix of primary socialisation, resocialisation, involving change in deeply held beliefs and attitudes, requires the support of a family-like community for its success.<sup>88</sup>

The process described here is, it is argued, the one about which Paul writes extensively in his epistles. It is that which he describes as being "Changed into his (Christ's) likeness, from one degree of glory to another."<sup>89</sup> The concept of "glory" is closely related to that of the image as the outward and visible expression of an inner reality. In the Old Testament, it is the property of God in revelation. In the New Testament, Christ reveals the glory of God in his death, resurrection and ascension. This glory, the character of God in revelation, is to be shared by Christian believers. Mankind, as God's image, is to reflect his glory, not simply by a process of continual transformation, but eschatologically, in the inheritance of a spiritual body and in the sharing of Christ's heavenly reign.<sup>90</sup> This identification with Christ, to describe which Paul frequently uses the shorthand phrase, "in Christ", is sometimes unhelpfully called "Christ-mysticism", using a term originated by Albert Schweitzer and taken up by C.H.Dodd to describe the "realisation" of the new age inaugurated by the death and resurrection of Christ in the life of believers.<sup>91</sup> The reality of this realisation, however, is not present only occasionally in certain sublime moments of experience but is determinative for the whole of Christian life. The Church's "objective" state of salvation consists in the imputation to her members of the death, burial, resurrection, ascension and reign of Christ.<sup>92</sup> As "Head" of the Church,

Christ is both a corporate figure and the source of the Church's life.<sup>93</sup> These two aspects of reality are to be explained psychologically by the gift to the Christian believer of a new identity consisting of Christ himself. This new identity is both determinative of the reality of the Church and provides the underlying dynamic for a process of change described as renewal on the pattern of the creator of the new nature.<sup>94</sup>

The final and crucial question to be addressed as the outcome of this association of revelation with conformation to Christ is: What is the nature of the knowledge of God which results from revelation? To answer this, it is necessary first to review the definition of knowledge given in the earlier chapters. To know something does *not* mean to receive an image or impression caused by the object of knowledge. This rather simplistic definition has formed the basis for the rejection by some philosophers and theologians of the possibility of genuine knowledge of God.<sup>95</sup> To know something is to form an interpretation of the object of knowledge in relation to other relevant existing knowledge. To know a person has an additional dimension. It involves not only the incorporation of that person into the world-model by means of interpretation but also the acceptance of that person as an actual or potential reference figure.<sup>96</sup> This requires an evaluative judgement on the attitudes and beliefs shared with that particular person and a decision on the relative importance of the person in comparison to other reference figures and groups. The acceptance of a relationship of whatever kind with another person requires the acceptance of their influence to some degree over one's own judgements, beliefs and values.

The sense of the biblical term "to know" when applied to the knowledge of God has been described as "to have a formative relationship".<sup>97</sup> To know God includes this sense of accepting God as reference figure in the same way as any personal relationship. This acceptance takes the form of the continual requirement of decision over whether or not to accept the power and direction of the Holy Spirit. But the knowledge of God also includes the opportunity to form

an interpretation of his character. This opportunity is provided by the historical Jesus and the record of his life in the New Testament.<sup>98</sup> The knowledge of God thus includes both those aspects seen to be involved in the knowledge of another person, the factual and the formative, one represented by the incarnate Christ, the other by the indwelling Spirit. The source of this knowledge, revelation, is thus to be seen as bound up with the process of conformation to Christ, a process whose twin aspects may be defined as revelation and Christian learning.<sup>99</sup>

## 6. Ideology and Inspiration

Revelation takes place in the context of concrete human situations with both social and psychological dimensions. It is given to persons already in the process of formation through participation in a given society and culture. That society provides the cognitive framework by means of which experience is interpreted and reinterpreted. When a person begins to receive Christian revelation, the process of formation continues, but several new factors are introduced, including the Church as both historically based institution and concrete local community. In sociological terms, the Church may be described as a reference group whose defining characteristics include not only the other members of that group but the perspective which they share, a perspective whose elements include both Scripture and Tradition. To describe the Church's tradition and teaching as the shared perspective of a particular reference group is to say that it constitutes an ideology which provides the interpretative framework through which the member of that particular group understands both his own experience and that of others. The framework is both cognitive and affective, and many of its details are the subject of such profound commitment as to be almost impossible to express.<sup>100</sup>

The introduction of the subject of ideology at this stage provides an example of the overlap of possible theoretical approaches to the same phenomenon. It is a basic tenet of the sociology of knowledge that all knowledge is held in ways which relate to the historical, political and social structures of the society within which the particular belief system develops. The same feature of belief systems is expressed by the analysis of reference groups in social interactionism and by the way in which schemata have been shown to be both culturally transmitted and formative of the outlook of the subject. The description of the social context of learning and identity formation presented in an earlier chapter involved the synthesis of up to ten separate theoretical frameworks.<sup>101</sup> Each one is to be seen as an expression of the hermeneutical nature of cognition and of its

outcome, those shared beliefs which constitute the "knowledge" of a given social group.

In terms of the stages outlined by de Mey,<sup>102</sup> the theory of ideologies as originally advanced and the practice of ideological suspicion belong to the third stage, the contextual. The recognition that all systems of value, and not just those of the ruling classes, are ideological in character lifts the study of ideology to the fourth and cognitive stage, at which the hermeneutical circle governing human thought is recognised. The attempt to trace the connection between revelation and the mechanisms of human learning raises the question of the existence of possible constants behind the variety of value systems which have succeeded one another throughout the history of human thought. The answer to this question is indicated by the recognition that any given ideology is built on some image of human life which seems both feasible and satisfying.<sup>103</sup> Revelation may be seen as a "fifth stage", at which a definitive image of human life, the source of absolute values, makes its appearance within the ideological flux of human philosophical systems. In the context of the sociology of knowledge, revelation is something which breaks in to the historical and social structures through which knowledge is available with a definitive apprehension of something universally true and profoundly significant - the nature of men and women and their relation to God.

If this claim is to be upheld, it will follow that, while incorporating all the features of formation by ideology, formation by revelation involves an extra dimension. The same position is expressed by the claim that the appropriation of revelation involves all the natural mechanisms of the learning process. The whole process is one of Christian formation, in which the new identity given in revelation is appropriated step by step in the course of Christian learning. This process is not simply individual but corporate; it is not simply the individual whose character is formed as the outcome of revelation and response but the community and, occasionally, the culture of which that community forms a part. Revelation is one aspect of the formation

of Christian tradition. Any particular revelatory insight must be interpreted, using the resources available within the tradition at the given stage of its development. The process is one of assimilation and accommodation, in which fallible and incomplete images of human life and the character of God are corrected, adjusted and re-expressed.<sup>104</sup> The formation of Christian tradition consists of a hermeneutical process in which both revelation and ideological criticism and reconstruction are present in varying degrees. The fragmentation of the Christian community is to be recognised as an additional factor in this process. There is no single recognisable "Christian ideology" but rather a number of competing ideologies claiming to represent authentic Christian understanding.

Discussion of the relation between revelation and ideology turns in particular around the issue of the authority of Scripture. In the perspective of the Christian community as reference group, the Bible occupies a central position. Yet the authority of the Bible and the correct method of its interpretation are themselves the subject of dispute. These differences over the authority and interpretation of Scripture both reflect uncertainty about the place of the Bible in the overall process of revelation and express the ideological character of Christian belief. The idea of "Christian Scripture", claims David Kelsey, is logically related to the idea of "Christian Church". The authority of Scripture is part of the Church's self-identity. A book like the Bible is only "Scripture" in the context of a Church which accepts it as authoritative and, conversely, part of what it means to be the Church is to use certain books in certain ways. Thus, the authority of Scripture is not something inherently present in the books themselves. It is something conferred upon it by the Church as an outcome of the role of these particular books in its formation.<sup>105</sup> The strengths and weaknesses of Kelsey's analysis are those of the philosophy of Wittgenstein on which it is based, a philosophy centred on the relation between meaning and use. For Wittgenstein, the meaning of the word "God" is whatever is distinctive about religious language. The question of whether God exists or not lies outside the scope of his analysis.<sup>106</sup> The accuracy of the Wittgensteinian analysis in its

own terms and thus the relation between the authority of Scripture and its use within the Church may be conceded, but without abandoning the possibility of the Bible possessing some inherent authority as a result of divine revelation. The relationship between meaning and use is a feature of ideological enclosure: terms acquire their meaning only within a governing ideology. Thus, the ideological aspect of the acceptance of Scriptural authority may be accepted but without ruling out the possibility of an independent source of authority in divine revelation.

If the claim that Scripture possesses an inherent authority of its own is to be upheld, however, the precise relation between revelation and the Bible must be specified. A definitive resolution of this issue lies beyond the scope of the present thesis, but some suggestions are possible on the basis of the arguments developed here. Revelation is to be understood as something which breaks into the hermeneutical circle of human self-interpretation, offering a set of truths which serve as the basis for the interpretation of all others. This is precisely what is claimed, in the Calvinist tradition, for the Bible. In Calvin's view, Scripture is God's providential remedy for the lack of true knowledge of him within human experience. Because of human sinfulness, the knowledge of God potentially available in creation is distorted. Before men and women can truly know God, they must be "enlightened through faith by an *internal* revelation from God." It is the Bible which provides that necessary internal revelation. The Bible acts as a "pair of spectacles" through which we are enabled to interpret aright the signs of God in creation as well as the history of God in redemption.<sup>107</sup> Thus, "revelation" is to be understood as the process which led to the composition of the Old and New Testaments and ceased with the formation of the closed canon.<sup>108</sup> The problem with this position is that it fails to take account of the task of biblical interpretation. The truth of Scripture itself is held to be "as obvious as black and white."<sup>109</sup> The Bible is presented as an "internal" revelation, a key to the interpretation of experience, rather than as an element in a wider hermeneutical process. The consequence has been the fragmentation of this tradition into a multiplicity of

sects each claiming absolute authority for its own tradition of biblical interpretation.

The fundamentalist position is buttressed by an appeal to the "inward testimony of the Holy Spirit". There are, however, broadly two alternative ways in which this doctrine may be understood, and the difference between them is crucial to the outcome of the present theory of revelation in relation to Scripture. For Calvin, the testimony of the Holy Spirit takes the form of an internal witness to the *authority* of Scripture. Conviction of the truth of Scripture, he believes, rests not on human testimony, especially not on that of the Catholic Church, but on that of God himself. While unaided human reason may provide *evidences* of divine authorship, "the certainty which faith requires" comes only from the Spirit.<sup>110</sup> The alternative is to allow the Holy Spirit a role in the *interpretation* of Scripture. In this understanding, it is the Holy Spirit who supplies the "inward revelation" necessary not only for true self-knowledge and the knowledge of God but for the interpretation of Scripture itself. The testimony of the Spirit is not to the authority of Scripture directly, but to Christ. Acceptance of the authority of Scripture is an indirect result of the recognition in the pages of the Bible of the same Christ to whom the Spirit bears witness as the source of the believer's new identity and relationship with God. As Emil Brunner maintains, it is by a single act of revelation that there is created in the believer both faith in Christ and confidence in Scripture.<sup>111</sup> The principle of interpretation needed for the correct understanding of the Bible is the incarnate Jesus Christ; it is to Christ that the Spirit bears witness. The "inward testimony of the Holy Spirit" may, therefore, be identified with the Spirit's role in revelation previously described.

The main question to arise from the acceptance of the second of these alternatives concerns the relationship between Christ and the Bible. Why is it that the act of revelation which creates faith in Jesus Christ creates at the same time a confidence in Scripture? Is the Church, in accepting the canonicity of a certain set of books and rejecting others, simply *conferring* authority on those particular

books or is it *recognising* in them an inherent authority which they possess by virtue of a certain relationship to Christ? If the latter, what is the nature of that relationship? The kind of answer offered by the analysis of learning and revelation given here centres on the process of assimilation and accommodation in Christian learning. The Bible is to be seen as the outcome of a religious tradition whose formation represents a *learning process* in which the dynamic is provided by successive experiences of revelation. Any given event in which the character of God is revealed may be largely assimilated to the existing thought-patterns of the community. Thus, the deliverance of the Israelites from Egypt and the succeeding series of victories over their enemies allows of interpretation in terms of an aggressively partisan and militaristic deity. However, it also introduces into the tradition of the community a sense of solidarity based on a consciousness of election and a sense of the power of God over other nations and their gods. These beliefs, having taken their place as elements of the communal tradition, form the basis for the appreciation, at a later stage and as a result of further experiences of revelation, of the love of God revealed in election and the universality of his power. These elements may then come together to suggest the universality of God's love. The result of any given experience of revelation is usually that the character of God is only partially understood, but the cumulative effect is the formation of a tradition in which sufficient resources exist for the understanding of Jesus Christ by his followers, under the guidance of the Holy Spirit, as both Messiah and Son of God.<sup>112</sup>

Such an explanation of the relationship between Christ and Scripture demands a theory of inspiration by which the formation of Israel's tradition in the correct direction may be explained. It is possible to construct such a theory as a result of careful attention to the meaning of the word "inspiration".<sup>113</sup> Terms such as this may be applied to God by analogy from their everyday meaning, making such changes as the nature and character of God require. The example which may be given to illustrate the everyday meaning of "inspiration" is the inspiration of a student by a particularly influential teacher. To

say that a particular piece of the student's work was "inspired" by that teacher does not mean that it was written by the teacher. It means that it was a response by the student to that teacher. The fact of inspiration by no means rules out the possibility of error. Not only will the student's work reflect his own particular style of thought and expression, it will reflect his cultural background and the limits of his understanding. The influence of the teacher will be limited by the capacity of the student both to understand what the teacher intended to convey and to respond to it. It may not be that the teacher deliberately sets out to inspire, but even if he is conscious of the effort to influence the students, this is only done by means of other actions, in particular explanation and demonstration. The result may well be a considerable degree of divergence between the work of different students, who may be more or less inspired and who may comprehend the teacher to a greater or lesser degree. Despite their differences, however, a degree of unity between the students can be expected reflecting the intention of the teacher.

In the application of this analysis of the term "inspiration" analogously to the action of the Holy Spirit in relation to Scripture, a number of close parallels can be accepted. While the possibility of unconscious influence can be ruled out in view of the omniscience of God, the idea of inspiration in and through other actions is to be accepted as an important element in any doctrine of inspiration. Such a doctrine, moreover, preserves that understanding of the Spirit's operation previously seen to be vital, namely the preservation of human autonomy. The differences in style and emphasis between biblical writers can be seen to be due to the latitude allowed to human autonomy in their response to the experience of inspiration. It allows for the progressive formation of a tradition based on successive experiences of revelation. As the written record of that developing tradition, the Bible preserves descriptions of events taken to be the result of divine intervention, of primary religious experience, such as that of the prophets, and successive layers of interpretation within the community. It is the record of a process of formation by means of

successive experiences of revelation and subsequent interpretation and reinterpretation, such that the tradition is progressively moulded, deepened and enriched in the resources it contains for understanding the nature of God and his relationship to mankind.<sup>114</sup>

Christian learning, it has been argued, is that learning which takes place within the sphere of revelation. There are two senses in which this may be true of a given situation. Such learning may be taking place within the sphere of revelation because it represents a handing on of the tradition received and interpreted by the Church as a result of past revelation. The learner may be said to be receiving the ideology of the Church, although this will be an ideology in the formation of which revelation has played an important part. The result of such a process is likely to be what John Westerhoff calls "affiliative faith", a faith dependent upon the authority of the community.<sup>115</sup> Although such faith is not necessarily to be despised, its end result may well be a "dead" and defensive orthodoxy. The second sense involves the present activity of the Holy Spirit in the life of the believer. Such learning takes place as a result of the outworking of the "identity" given to the believer in Christ by means of the Holy Spirit in such a way as to form the self-image and through the self-image, attitudes, values and behaviour. This process of formation in response to revelation by no means excludes straightforward ideological transmission and its accompanying patterns of response but such ideological formation becomes part of a deeper process in which the Holy Spirit is directly at work.<sup>116</sup>

## Notes

1. *Ethics*, New York; Macmillan, 1965, p.80-81.
2. Fynn, *Mister God, This is Anna*, London; Fontana, 1974, p.97
3. G.Caird, *Paul's Letters from Prison*, Oxford University Press, 1976, p.44-45.
4. See further, p.262-264 below.
5. P.Sponheim, "The Knowledge of God", *Christian Dogmatics*, ed.C.E.Braaten and R.W.Jenson, vol I, Philadelphia; Fortress Press, 1984, p.197-198.
6. Sponheim, *loc.cit.*
7. J.Astley, "On Learning Religion: Some Theological Issues in Christian Education", *Modern Churchman* 29,2, 1987, p.32-33.
8. Sponheim, *loc.cit.*
9. Paul Sponheim's method is to start instead with the theological tradition. He begins with three assertions, unsupported except as selections from the theological tradition he has already admitted to possess no unity. The relation of these three assertions to the text of the problem is problematical, their relation to the context non-existent. To begin with the assertion of the reality of God and the reliability of revelation is to abandon any attempt to engage with the secular context. Reasons will be given in the next section for regarding the second assertion, the "categorical supremacy of God", as unsatisfactory. Finally, the third assertion, the initiative of God in revelation, involves the concept of God *acting*, a concept which is itself problematical for theology, and which requires a coherent theory of agency, such as the one given in this thesis, to justify. Secondly, Sponheim's treatment of the epistemological problems in their own terms is profoundly unsatisfactory. The discussion is sketchy, and the verificationism of 50 years ago occupies a disproportionate amount of space and attention. Despite his earlier reference to the "battle for explanatory control" between the "stubborn sense of subjectivity" and the "web of objective causality", the attempt to understand and resolve the issues involved is brief and unsatisfactory. His treatment of writers like Kuhn, Hanson and Toulmin relies on early and superficial critiques and shows an ignorance of the latest material in which the subtleties of their respective positions are more fully appreciated. The tendency of theologians to take refuge in their own tradition from the problems set for them by philosophers is likely to perpetuate and exacerbate the problems to which Sponheim draws attention in his introduction. (Sponheim, *op.cit.*, p.199f.,219f.)

10. David Pailin, "Revelation", *A New Dictionary of Christian Theology*, ed. A. Richardson and J. Bowden, London: S.C.M., 1983, p.504.
11. Psalms 8 and 19; Acts 14:15-17, 17:22-29; Romans 1:18f., 2:12-16.
12. William Temple, *Nature, Man and God*, p.306-307; quoted in *Revelation*, ed. J. Baillie and H. Martin, London: Faber and Faber, 1937, p.96-97.
13. P. Helm, *The Divine Revelation*, London: Marshall, Morgan and Scott, 1982, p.2-6.
14. David Hume, *Dialogues Concerning Natural Religion*, New York: Hafner, 1948, p.39.
15. J. Baillie, *Our Knowledge of God*, Oxford University Press, 1939, p.178-218.
16. See J.L. Austin, "Other Minds", *Proceedings of the Aristotelian Society* 1946, p.76-116; J. Wisdom, *Other Minds*, Oxford: Basil Blackwell, 2nd.ed, 1965; L. Wittgenstein, *Philosophical Investigations*, Oxford: Basil Blackwell, 2nd.ed, 1958; D.R. Jones (ed.) *The Private Language Argument*, London: Macmillan, 1971; M. Hollis, "The Limits of Irrationality", *Archives Europeenes de Sociologie* 7, 1967, p.265-271, also in *Rationality*, ed. B. Wilson, Oxford: Basil Blackwell, 1970. See further below, p.246f.
17. See above, p.58-61, 77-78.
18. J. Fowler, *Stages of Faith*, San Francisco: Harper and row, 1981, p.29.
19. P. Berger and T. Luckmann, *The Social Construction of Reality*, Harmondsworth: Penguin, 1966, p.110-146.
20. S. Toulmin, *Knowing and Acting*, London: Macmillan, 1976, p.308-310
21. What is being proposed here is that there exists, in the structure of human cognition, a schema for the transcendent. This position leaves open the question of whether anything beyond human experience actually exists. The denial of such a possibility is, in itself, a response to the question posed by the existence of the schema. The result is the restriction of the "ultimate environment" to experience, and is as much a statement of faith as is the belief in a God of whatever kind. It is impossible finally to eradicate the suspicion thus raised that "God" is a projection of the human need for ultimate explanation and personal security. The choice must be made on the basis of faith.
22. Fowler, *Stages of Faith*, p.30; Fowler and S. Keen, *Life Maps*, Waco, Tx.: Word Books, 1978, p.36.
23. See above, p.119-122.
24. J. Calvin, *Institutes of the Christian Religion*, I.iii.3.
25. *ibid.*, I.iv.1-4.
26. Above, page 152-153.

27. E. Brunner, *Revelation and Reason*, London; Lutterworth, 1947, p.51-57.
28. Brunner, *Man in Revolt*, London; Lutterworth, 1939, p.53, 60-63, 70-74; *Revelation and Reason*, p.50-57.
29. P. Tillich, "Two Types of Philosophy of Religion", *Theology of Culture*, Oxford University Press, 1959, p.12-13.
30. Tillich, *op.cit.*, p.12.
31. Sponheim, *op.cit.*, p.199-200, 213f.
32. Charles Hartshorne and William J. Reese (eds.), *Philosophers Speak of God*, University of Chicago Press, 1953, p.7. Quoted by Sponheim, p.199.
33. Tillich, *op.cit.*
34. H.R. Niebuhr, *Radical Monotheism and Western Culture*, Lincoln; University of Nebraska Press, 1960, p.20f.
35. See above, p.30f.
36. See above, p.33-34.
37. Above, p.33-34. The distinction between revelation and theology is a parallel to that between tacit and explicit knowledge. Theology may be understood as an interpretation of revelation based on the categories of contemporary philosophy and theological tradition. See Brunner, *Revelation and Reason*, p.63f.
38. See above, p.155-158; C.F.D. Moule, *The Holy Spirit*, Oxford; Mowbrays, 1978, p.7f.
39. See above, p.171-172, for the link between the natural and supernatural.
40. Above, p.155f.
41. See below, p.263-264.
42. R.C. Moberly, *Atonement and Personality*, London; John Murray, 1901, p.281. See G.W.H. Lampe, *God as Spirit*, Oxford University Press, 1977, p.22-24.
43. G.S. Hendry, *The Holy Spirit in Christian Theology*, London; S.C.M. 1957, p.17-24
44. Romans 8:9
45. Y. Congar, *I Believe in the Holy Spirit, vol.I*, London; Geoffrey Chapman, 1983, p.37-38.
46. *ibid.*, vol.II, p.101.
47. See Moberly, *Atonement*, p.97-108, 280.
48. D.S. Cairns, *The Image of God in Man*, London; S.C.M. 1953, p.32.
49. See above, p.152-153.
50. 2 Corinthians 5:17.
51. G.B. Caird, *Paul's Letters from Prison*, Oxford University Press, 1976, p.172.
52. See below, p.263-264.

53. *op.cit.*, p.175.

54. *ibid.* p.176-178. J.B.Lightfoot, *St.Paul's Epistles to the Colossians and to Philemon*, London; Macmillan, 1890, p.142f. See also C.F.D.Moule, *The Epistles of Paul the Apostle to the Colossians and to Philemon*, Cambridge University Press, 1965, p.4, 58f.

55. Galatians 4:4.

56. Ephesians 1:4.

57. H.Ridderbos, *Paul; An Outline of His Theology*, London; S.P.C.K, 1977, p.68-86.

58. Caird, *op.cit.*, p.177-178.

The "Spirit Christology" of this section, in which Christ is seen as a man filled with the Holy Spirit and, as such, the exemplar of the humanity of the new creation, is filled out in the later sections, in which he is seen as the one who gives the Spirit to his disciples, with the result that they receive his identity as Son of God as their own. It is this aspect of Christology which is particularly relevant for the argument of the thesis. But "Spirit Christology" needs to be balanced by and held in tension with a "Word Christology", in which the emphasis is on the ongoing relationship of Father and Son within the Godhead. That eternal relationship, in which the Father gives himself to the Son by means of the Spirit, may be seen as the basis for the gift of the Spirit beyond measure to the incarnate Christ; while his becoming man is itself the basis for the gift of the Spirit to believing men and women through the exalted Christ. I owe this insight to Tom Smal, *The Giving Gift*, London; Hodder and Stoughton, 1988, p.56-115.

59. The present author was surprised, on coming to the study of theology from a background in history, at the neglect by theologians of the work of historians. One consequence appeared to be an exaggerated respect for the work of Troeltsch, with whose conclusions few modern historians would be likely to agree. As in the case of epistemology, the task of the theologian involves an examination of the philosophical problems involved at first hand. It is in the light of such an examination that the theological tradition is to be evaluated, rather than *vice versa*. The example of Schleiermacher, who recognised the need to make use of the insights of what he called "Ethics" and we might call "human studies", is one to follow in this respect.

60. W.Pannenberg, *Anthropology in Theological Perspective*, Edinburgh; T&T.Clark, 1985, 485; *What is Man?* Philadelphia; Fortress Press, 1970, p.137-138.

61. E.Troeltsch, "Historiography", *Encyclopedia of Religion and Ethics*, ed.J.Hastings, vol 6, Edinburgh; T.&T.Clark, 1913, p.719.

62. O.Cullmann, *Christ and Time*, London; SCM, 1951, Denials of the appropriateness of history as a vehicle for the knowledge of God are usually based on inadequate theories of knowledge. One of the most important examples is Lessing, whose "ugly ditch" has recently been examined in detail by Gordon E. Michalson Jr, (*Lessing's "Ugly Ditch": A Study of Theology and History*, London; Pennsylvania State University Press, 1985, esp. p.23-47). Michalson shows that Lessing identifies but confuses three separate types of "ditches"; the temporal ditch between the events of the past and the standpoint of the present; the disjunction between types of truths, the contingent or "accidental" truths of historical reporting and the "necessary" truths of reason; the disjunction between the type of truth conveyed in Christological statements and the events which are supposed to prove or add weight to such statements. The first two types of ditch are mutually exclusive in terms of their significance. The first is based on a strict empiricist view of the possibilities of historical testimony, the second on a strict rationalist interpretation of truth. The raising of problems of the second kind makes problems of the first kind irrelevant.

It is the third type of ditch which has perhaps the greatest significance for modern approaches to historical revelation. This is the supposed disjunction between "events" and "truth" which appears to sever the connection between the "Jesus of history" and the "Christ of faith". It is this idea that, in the words of Michalson's summary, "'Events' simply do not produce 'truths'," which emerges from inadequate epistemology. This thesis has demonstrated at length that events are always grasped by means of a framework of expectations. Their significance and interpretation is a function of the schema brought to their comprehension. Thus events *always* produce truths of some kind; no event involving human beings has ever gone uninterpreted. In this context the importance of Jesus' claim to fulfil the Scripture can readily be appreciated. The gospels are full of evidence of precisely this type of question asked about him by contemporaries; "Are you he who is to come or should we look for another?", a question Jesus answered with a reference to the Old Testament Scripture. Jesus' life and claims throw a new light on the Scripture, in which light his teaching and actions stand out as of immense significance. It is precisely the fulfilment of Scripture in this unexpected way which, it might be claimed, is the principal theme of the Gospel accounts, particularly that of the Fourth Gospel.

63. See above, p.157.

64. See above, p.151.

65. See, for example, A.Marwick, *The Nature of History*, London; Macmillan, 1970.
66. R.F.Atkinson, *Knowledge and Explanation in History*, Ithaca, New York; Cornell University Press, 1978, p.4-13.
67. G.R.Elton, *The Practice of History*, London; Collins, 1969, p.58f.
68. W.Temple, "Revelation", *Revelation*, ed,J.Baillie and H.Martin, London; Faber and Faber, 1937, p.107; "The essential condition of effectual revelation is the coincidence of divinely controlled event and minds divinely illumined to read it aright."
69. Jeremiah 23:18, see 1 Kings 22:19-23 and the comments of John Gray on that passage; Gray, *I and II Kings*, London; SCM, 1964.
70. Cullmann, *op.cit.*, p.94-106. See further p.208-209 below on the concept of inspiration.
71. *op.cit.*, p.19-23, 177-214.
72. John 20:31, Dietrich Bonhoeffer points out that many of the things which Christ did are not recognisable in themselves as actions of the Son of God. He did things which from the outside look like sin. It is only because we believe him to be the Son of God that we accept these actions as non-sinful. Bonhoeffer, *Christology*, Glasgow; Fontana, 1978, p.108.
73. 2 Corinthians 5:16f. is a very important text in this connection. See the comments of C.K.Barrett on this passage; Barrett, *A Commentary on the Second Epistle to the Corinthians*, London; A.&C.Black, 1973.
74. E.Farley, "The Work of the Holy Spirit in Christian Education", *Religious Education* 60, 1965, p.433.
75. John 20:31.
76. G.W.Stroup, *The Promise of Narrative Theology*, London; SCM, 1984, p.14f.
77. H.R.Niebuhr, *The Meaning of Revelation*, New York; Macmillan, 1960, p.59f. Niebuhr argues, first, that every person is in a given historical situation and that revelation must, therefore, come to each individual in his or her given context. But it comes in the context not simply of an "objective" historical situation but of a personal history. What revelation does is to supply the meaning for a person's given historical experience. Revelation is directed, therefore, to the area in a person's cognitive make-up which Pascal called the "reasons of the heart". The manner in which revelation comes, in the context of this personal history whose significance is sought, is through the intuitive power of a given moment.

78, Bonhoeffer, *op.cit.*, p.69f.

79, John 16:14

80, I Corinthians 13:12, see also I John 3:1-2.

81, Moberly, *op.cit.*, p.26-47, 280.

82, Above, p.169.

83, See above, p.159f.

84, See Romans 8:1-11; J.and P.Sandford, *The Transformation of the Inner Man*, Plainfield, NJ; Bridge Publishing, 1982, esp.p.3-139.

The question of voluntary control in an area in which the Holy Spirit is at work raises the related question of the respective roles in Christian education of the Holy Spirit and the human teacher. One of the most important theoretical arguments against the relevance of secular educational theory to the field of Christian education has been that its dependence on revelation, in which God is sovereign, makes Christian education essentially different. The real teacher, it is maintained, is the Holy Spirit, whose methods are outside the scope of educational theory and whose action it is beyond the Christian educator to predict. All the Christian educator can do is to prepare the ground and, having done so, hope and pray for the Holy Spirit to work. The various versions of this argument are referred to by James Michael Lee as the "blow" theory, based on the expectation that "the Spirit blows where he wills," (Lee, *The Flow of Christian Education*, Mishaw, Indiana; Religious Education Press, 1973, p.174-180 gives examples as well as trenchant criticism of this position.) As a representative, Randolph Crump Miller speaks for a large body of opinion when he writes,

The process (of Christian growth) cannot be guaranteed by the processes of either education or evangelism or by the relevance of theological concepts. The response...is in the last analysis a personal decision that rests in the mystery of God. (*The Theory of Christian Education Practice*, Mishaw, Indiana; Religious Education Press, 1980, p.162)

And from a different viewpoint, James Fowler, having outlined his comprehensive theory of human learning and development by means of a diagram labelled with the letters A to F, concludes,

Finally, there should be a letter X on our chart. This would be to represent the initiatives of the divine toward us in our lives of faith. The questions of revelation, providence, and the work of God's spirit are matters of theological concern and discussion. (J.W.Fowler,

"Stages of Faith and Adults' Life Cycles", *Faith in the Adult Life Cycle*, ed.K.Stokes, Minnesota: Saddlier Press, 1982, p.204.)

In the context of his theory of learning, these questions are reduced to the letter X on a chart. They play no role in the formulation of the theory.

John Westerhoff approaches a more satisfactory position when he describes Christian learning and spiritual growth as a process of "conversion and nurture". By "nurture", he refers to the activity of a Christian community in passing on its traditions and practices by means of its worship and the other elements of its corporate life, including teaching activities. "Nurture" includes also the response of the individual in terms of growth in the knowledge of Christian doctrine, in learning to pray, to participate in worship and in acts of Christian service. Nurture is characterised by gradual growth. "Conversion", however, is characterised by inward transformation. There are two related senses in which the word conversion is used. The first refers to the initial response to evangelism or Christian witness by which a person becomes a Christian, and the radical reorientation of belief and practice which goes with it. The second refers to the process by which the faith of the community is "owned" by the individual. In this sense, growth in faith may include a series of mini-conversions on the road towards maturity. Westerhoff writes,

These conversions are experienced as illuminations resulting in new ways of "seeing and hearing." Sometimes initially dramatic, they typically involve a gradual process; sometimes emotional, but also always intellectual; rarely a single experience, typically multiple... (G.K.Neville and J.H.Westerhoff III, *Learning through Liturgy*, New York: Seabury, 1978, p.164. For Westerhoff's discussion of nurture and conversion, see *Learning through Liturgy*, p.135f., *Inner Growth/Outer Change; An Educational Guide to Church Renewal*, New York: Seabury, 1979, p.7f., and in particular, "Christian Education: *Kerygma v. Didache*", *Christianity, Society and Education*, ed.J.Ferguson, London: S.P.C.K., 1981. For further comment, see my article, "Christian Education as Enculturation", *British Journal of Religious Education* 10, 1988, p.65-71.)

"Nurture" refers to the ongoing process of transmission of the elements of the life of the community, its "understandings and ways", its symbols and shared values. Conversion means the personal inward appropriation of these elements. Conversion, however, cannot be nurtured. The process by which the individual

internalises or "owns" the faith expressed in the church's corporate life is one which cannot be controlled or planned for in the educational framework. There is a discontinuity at this point between what Westerhoff sees as the inward and the outward aspects of Christian experience. It is a discontinuity which is undoubtedly present in the process of Christian education, but one which it is important to interpret correctly. The difference between "nurture" and "conversion" is not the difference between what human effort can achieve and what the Holy Spirit alone can accomplish. It is a characteristic of the human power of decision, which is at the heart of the learning process. "Conversion" is more "inward" than nurture because it represents a change in the person's identity schema. In the course of exposure to Christian worship, teaching and corporate life, the combined efforts of men and women and the work of the Holy Spirit will result in gradually increasing pressure for change, for accommodation of the identity schema to acknowledge a particular aspect of what it means to be a Christian. However, it is in the power of the individual to accept or to reject the consequences for his or her identity of all that has been learned. A personal response is required to enable the Holy Spirit to apply the experience of both formal and informal situations at the level of personal identity.

85. See above, p.150-151, 159.

86. See above, p.120, and O.G.Brim and S.Wheeler, *Socialisation after Childhood*, New York, John Wiley and Sons, 1966, p.20f, for the distinction between resocialisation and secondary socialisation.

87. Sandford, *op.cit.*, p.3-22.

88. The family-like character of the Christian community is an important element of faith-community theory in Christian education. See especially the work of John H.Westerhoff III, in particular "The Church and the Family", *Religious Education* 78, 1983, p.249-274.

89. 2 Corinthians 3:18.

90. D.Cairns, *The Image of God in Man*. London: SCM, 1953, p.24-26, 37-41.

91. Ridderbos, *op.cit.*, p.29-31, 39-41.

92. *ibid.*, p.58-60.

93. *ibid.*, p.61-64. See also Caird, *op.cit.*, p.77-78, 180.

94. Colossians 3:10.

95. For example R.B.Braithwaite, *An Empiricist's View of the Nature of Religious Belief*, Cambridge University Press, 1955; F.G.Downing, *Has Christianity a Revelation?* London: SCM, 1964, much of whose argument is dependent on Braithwaite.

96. See above, p.127-128,

97. Downing, *op.cit.*, p.42,

98. In §4 of *The Christian Faith*, Schleiermacher argues that God cannot be known in the same way as another person because to know a thing or person implies a degree of freedom in relation to the object or person, whereas we have no degree of freedom in relation to God. As a result, God can only be "known" in a derived way as a result of the consciousness of absolute dependence. The insight that a degree of freedom is required in relation to something or someone before knowledge is possible can be accepted, since knowledge requires the freedom to make an interpretation. But Schleiermacher fails to make the distinction referred to earlier (p.151f.) between the ontological relation between God and mankind, in which men and women are wholly dependent upon God as his creatures, and the relationship which arises as a result of the unique constitution of men and women as responsible and autonomous. The degree of freedom towards God which is part of the conditions of the creation of mankind thus allows the possibility of the knowledge of God, and the accommodation of God to the conditions of human knowledge in the incarnation of Jesus Christ makes this possibility an actuality.

99. See above, p.183-185 on the definitions of revelation and Christian education used here.

100. This description of the ideological character of religious faith is based on that of John Hull, *What Prevents Christian Adults from Learning?* London: SCM, 1985, p.51-58. J.L.Segundo makes a distinction between faith and ideology. In his early work, Segundo describes ideology as a set of beliefs and values held on the basis of *argument*. Faith, by contrast, includes those deep-seated beliefs held in a manner analogous to personal trust. (J.L.Segundo, *The Liberation of Theology*, Dublin: Gill and Macmillan, 1977, p.106.) More recently, this distinction is further elaborated (Segundo, *Faith and Ideologies*, London: Sheed and Ward, 1984, esp.p.3-28). Segundo distinguishes two anthropological dimensions: the dimension of value and meaning, the sphere of faith; and the dimension of action and efficacy, the sphere of ideology. Segundo defines ideology as a rationally worked out means to the achievement of the highest value in each person's faith or value system. In view of the analysis of cognition given in this thesis, especially with regard to the relationship between attitudes and beliefs, it is doubtful whether this distinction is sustainable. In the process of learning and identity formation, the attainment either of clearly and freely chosen values or of rational procedures for their realisation is the exception rather than rule. Segundo's position implies an

artificial separation between reason and value in human development, Richard Niebuhr, whose analysis of value and faith Segundo appears to overlook, makes it clear that the espousal of one highest value is by no means a universal tendency (See *Radical Monotheism and Western Culture* and *The Responsible Self*).

101. The theoretical approaches used in the preparation of chapter 4 include those of Erik Erikson (psycho-social development), G.H.Mead (social behaviourism), symbolic interactionism and reference group theory, social learning theory (eg, Albert Bandura and Walter Mischel), Wittgenstein (forms of life and language games), Lev Vygotsky (zone of proximal development and the growth of word meaning), James Wertsch (internalisation of mental processes), and Paul Tournier's synthesis of psychiatric approaches. Also referred to are Jean Piaget (genetic epistemology) and experiments designed to refute his theory, as well as Barry Schlenker (impression management) and Gordon Allport (concept of the self).

102. Above, p.52.

103. Segundo, *op.cit.*, p.104.

104. See above, p.184-185 and page 33f.

105. D.Kelsey, *The Uses of Scripture in Recent Theology*, London; SCM, 1975, p.89-119.

106. See W.D.Hudson, *Wittgenstein and Religious Belief*, London; Macmillan, 1975.

107. J.Calvin, *Institutes of the Christian Religion*, Philadelphia, Westminster Press, 2 vols., 1960, volI, I,i,6.

108. L.Morris, *I Believe in Revelation*, London; Hodder and Stoughton, 1976, p.42f.

109. Calvin, *op.cit.*, I,i,6-7.

110. *ibid.*, I,i,7.

111. Brunner, *Revelation*, p.164-176. See also G.Hendry, *The Holy Spirit in Christian Theology*, London; SCM, 1957, p.72-90.

112. See T.F.Torrance, *The Mediation of Christ*, Exeter; Paternoster Press, 1983, p.15-33.

113. The theory of inspiration advanced here is that of W.J.Abraham. See *The Divine Inspiration of Holy Scripture*, Oxford University Press, 1981, especially p.58-69.

114. Several questions remain to be answered as a result of the suggestions advanced here. In particular, the field of biblical hermeneutics, while obviously relevant, lies outside the scope of the thesis. More directly, it may be asked whether a connection exists between the two contexts advanced here in which revelation plays a part in corporate formation, the growth of the tradition of which the biblical material is a record and the formation of Christian tradition,

in which the interpretation of the Bible itself forms an important element - whether any continuity is to be discerned between inspiration and the inner witness of the Holy Spirit, each of which is claimed in its own context to be the central element in revelation. In answer to this question, it may be suggested that the movement towards increasing interiority and universality discerned in the Old Testament (see p.158), a movement brought to fulfilment in the New Testament experience of the Spirit, provides an important element. So, too, does the incarnation of Jesus, the result of which is that the Spirit of God is henceforth identified much more closely with Christ. Another question concerns the part played in the discussion by the place of Tradition in relation to Scripture and its interpretation. Without pretending to deal adequately with this question, it may be noted that both Yves Congar and Vladimir Lossky, to take two influential writers from separate Christian traditions, appeal to the Holy Spirit as the ultimate guarantor of the truth of Christian tradition. (Y.M.-J.Congar, *Tradition and Traditions*, London; Burns and Oates, 1966; V.Lossky, "Tradition and Traditions", *In the Image and Likeness of God*, New York; St.Vladimir's Seminary Press, 1974, p.141-168.)

115. G.K.Neville and J.H.Westerhoff III, *Learning through Liturgy*, New York; Seabury, 1978, p.162f.

116. These points made briefly in conclusion to the argument given here lead on to a detailed discussion of the scope, aims and methods of Christian education. Such a discussion is extensive and complex and lies beyond the scope of the present thesis.

## CHAPTER SEVEN

### Reflection

At least two sorts of development seem to be called for. In classic theology claims about the material dimensions were made in a doctrine of creation that declared the actual physical contexts and dimensions of human life, whatever they may in fact be, to be fundamentally good and supportive of human freedom...The claims about the material dimensions of personal existence could be made in terms of an ontological relationship between all reality and God. This unchanging and unchangeable relationship, we saw, was logically distinct from the relations constituted by knowledge of God and by fall and redemption...It may be that theological anthropology will be unable to do justice to the material dimensions of human life until it has recovered a full-blown doctrine of creation as a mode of relation to God other than relationships in consciousness...In addition, theological anthropology may be able to deal with persons in their genuine concreteness only by a second "turn", from the person as patient or subject of consciousness to the person as agent.

*David Kelsey<sup>1</sup>*

Everyone's philosophical theology essentially includes within it the principles of his whole theological way of thinking. Thus, every theologian should produce the entirety of this part of his theology for himself.

*Friedrich Schleiermacher<sup>2</sup>*

## 1. Interaction and the Cognitive Orientation

The attempt to construct a theory of the relation between the processes of revelation and those of human learning has involved a wide range of theoretical fields. The variety of topics on which it has been necessary to draw conclusions are all potentially the subject of a thesis in themselves. These include the nature of the social sciences, the nature of perception, the relationship between the cognitive and affective aspects of learning, the mechanisms of socialisation, the nature and significance of human subjectivity and agency, the sphere of man's proper autonomy in relation to both his creatureliness and his fallen nature, the work of the Holy Spirit in revelation and in relation to the human spirit and the way in which the relation between Christ and the believer is to be understood. The main task has been not simply to bring these areas together and to give an account of their relationship with Christian learning, but to bring them together in such a way as to form one coherent overall thesis.

A comparison may be drawn with the work of Dr. John Hull in his book, *What Prevents Christian Adults From Learning?* In that book, Dr. Hull presents material from a number of theoretical areas and applies it to the problems of Christian learning. But his concern is confined to the way in which the various psychological or sociological factors with which he deals may inhibit Christian learning. The limited nature of his purpose makes it unnecessary for Dr. Hull to attempt a relation of the various fields on which he draws - it is sufficient merely to show the influence of each area separately. But in attempting a single overall theory of Christian learning, it is not sufficient simply to demonstrate the contribution of each separate area. The different fields must be brought together within a single framework of interpretation and their relationship to one another clarified.

The main problem posed by this requirement is the close interrelation of conclusions drawn from disparate theoretical fields.

Revision of a conclusion drawn from one particular area would require the reappraisal of the whole thesis. It has been necessary, for example, to reject both philosophical empiricism and Piagetian theory, and in each case the reasons have been carefully but briefly given. Further evidence which seemed to require the acceptance of either of these competing approaches would invalidate the entire thesis. In particular, the doctrine of the Holy Spirit plays an important part in the establishment of a relationship between nature and grace, human autonomy and divine intervention, and learning and revelation. If substantial reasons could be given for an interpretation of the work of the Holy Spirit different from that put forward here, the connection between revelation and learning would have to be reinterpreted along different lines.

On the other hand, one of the most interesting aspects of the attempt to establish connections between material in differing fields has been the discovery of substantial areas of overlap and continuity, in many cases between workers who appear to have been unaware of one another's results. Ulrich Neisser, for example, shows no signs of being familiar with Jerome Bruner's very similar theory of interaction.<sup>3</sup> The reasons for these areas of continuity can be traced to philosophical considerations. Writers in different fields are faced with the same basic questions concerning the mechanisms of perception and the nature of human beings, and their agreement is due, in most cases, to their selection of certain standard answers. The material from the different but related subject areas presented here is held together by a common philosophical orientation. The task of this final chapter is to attempt to examine some aspects of the orientation behind the theory presented here - to make explicit the theological and philosophical approach which undergirds the thesis as a whole.

One of the most important elements in the theory is what has been referred to above as the "cognitive approach" or "cognitive orientation". In the context of the study of perception, the main feature of the "cognitive approach" is the role of the "world model" of

the perceiver in the processing of information. In the words of de Mey, quoted above,

The central point of the cognitive view is that *any* such *information processing*, whether perceptual (such as perceiving an object) or symbolic (such as understanding a sentence) is *mediated* by a *system of categories or concepts* which for the information processor constitutes a *representation or model* of his world,<sup>4</sup>

It is only the categories involved in the perceiver's "world model" which enable perception to take place at all. Without them, as the experiments of Bartlett and Bruner amply demonstrate, recognition of a given object of perception would be impossible.

A central feature of the cognitive orientation is the hermeneutical nature of perception, recognition, comprehension and memory. This general orientation is translated into a theoretical model by means of the theory of interaction. Interaction is a hypothesis which explains the results of numerous experiments, of which the playing card experiment of Bruner and Postman is one of the most celebrated. As a theoretical model, interaction plays an important unifying role throughout the thesis.<sup>5</sup>

1. It suggests that both perception and learning are the outcome of human agency. The ability of human beings to construct a psychological environment is a reflection of the active nature of perception and information processing.

2. The mode of understanding termed *verstehen*, by which men and women understand and interpret the point of view of others may be viewed as implicitly interactive. *Verstehen* is the foundation of the Weberian or hermeneutical approach to social science, in which the agent's point of view and interpretation of his actions is the significant level of analysis.

3. Allied to Weber's approach are symbolic interactionism and related approaches to socialisation based on the work of G.H.Mead, in which social interaction is understood as the exchange of frameworks of interpretation.<sup>6</sup>

4. Interaction is the foundation of an approach to learning which interprets it as the outcome of personality as a whole, in which

ability to learn, propensity to learn and direction of learning are all outcomes of the formation of identity.<sup>7</sup>

5. Interaction provides the foundation for the view of learning as assimilation and accommodation which lies behind the recognition of the need for teaching methods geared to active engagement on the part of the learner.

In the social sciences generally, however, interaction is a highly unpopular hypothesis. This is not only because it requires the rejection of empiricism and, with it, the prevailing positivist orientation, but because of the difficulties it throws in the way of experimental precision. In order to obtain replicable results from experiments on human behaviour, it is necessary to quantify the stimulus and control the conditions of the experiment. If the value of the stimulus and the way the conditions are interpreted differs from individual to individual, this becomes extremely difficult.

The rejection of interaction for reasons such as these is to be viewed as inadequate, given the complexity of the theoretical foundations of experimental method examined in the opening chapter. A difference in theoretical orientation is to be noted between the natural sciences, where Kuhnian and related understandings are increasingly accepted, and the empiricism and emphasis on quantification still prevailing in many parts of the social science field. It has been suggested that the choice is to be made between these two approaches in favour of understanding all disciplines as, in varying degrees, hermeneutical. Quantification may be accepted as a small-scale and highly-defined approach within a larger field. The work of Odom, described in connection with the theory of perceptual salience, has demonstrated what can be done with the use of pretesting to discover the experimental subject's initial interpretation of a given stimulus.<sup>8</sup> Experimental work, such as that reviewed in chapters 2 to 4 of the thesis, may be understood as constituting "normal science", the testing and extension of one particular framework of interpretation from a number of possibilities.

The cognitive approach to perception and intelligence generally constitutes the "lowest level", or level of abstraction nearest to and most closely bearing upon the experimental data, of a set of closely linked aspects of a broader orientation. The outcome of the cognitive approach is a view of human beings as *interpreters* of the world around them, as *creators* of psychological world-models and co-creators of the *human world*, the product of and matrix for the processes of socialisation. This view is interpreted, at a higher level still, as the result of human autonomy and human autonomy given theological significance in relation to divine creation. It is by a process of careful relation of theological and philosophical orientation such as this that theological statements, which, in themselves, have a high level of abstraction, may be applied to the concrete experience of human life and filled out in terms of a theory of learning.

## 2. Interaction and the Synthetic A Priori

Founded on the contribution of the subject in perception and comprehension, the cognitive approach is implicitly related to the philosophy of Immanuel Kant. The development of the cognitive approach in the context of philosophy of science and the study of cognition represents a "turn to the subject" of the same kind as that exhibited by Kant's *Critique of Pure Reason*. As such, it encounters the same kind of problems as does Kant's philosophy. The task of this and the following sections is to draw attention these problems. In many cases, however, it will be suggested that the cognitive approach, and particularly the theory of interaction, offers a contribution to the solution of the difficulty. In particular, the use made of the cognitive approach in the course of the thesis represents a two-fold contribution to the interpretation of the philosophical framework developed by Kant:

1. In the course of chapter 2 above, reasons have been given for treating philosophical theories of knowledge and language as *paradigms* to which psychological investigation of the same topics stand as *normal science*. Philosophical models such as Kant's are to be taken as general frameworks capable of experimental analysis and consequent modification.<sup>3</sup>

2. Kant himself rejected the idea of revelation, preferring to confine religion to the limits of reason alone. But in his comments on the nature of philosophy itself, the possibility arises that the limits of reason may not be sufficiently broad to allow a satisfactory resolution of the problem of mankind's religious inclination. The true subject of philosophy, Kant believed, was mankind, and the nature of mankind was impossible to describe satisfactorily. Use has been made of this position, in chapter 1 above, to attempt to establish the relationship between revelation and the limits of human reason, so as to allow a view of revelation which both interprets and takes account of the limits on metaphysical speculation imposed by the Kantian framework.

One of the most important reservations of philosophers about Kant's work concerns his use of psychological terms in the course of the development of a philosophical position. The *Critique of Pure Reason* repeatedly refers to psychological faculties or "functions of the soul" - those of "sensibility", by which impressions are received from the outside world; of understanding, by which a system of categories is imposed on those impressions; and imagination, by which the categories of the understanding are applied to the impression received by sensibility by means of "schemata". Again, Kant refers a number of times to the fact that the subject of his investigation is specifically *human* understanding, the limits of that understanding being the limits of human cognitive capacity. In the Transcendental Deduction, he writes,

This peculiarity of our understanding, that it can produce *a priori* unity of apperception solely by means of the categories, and only by such and so many, is as little capable of further explanation as why we have just these and no other functions of judgement, or why space and time are the only forms of our possible intuition.<sup>10</sup>

This feature of Kant's work has frequently been the subject of criticism. Strawson, for example, objects to its "psychological idiom". It is, he believes, only one of several possible "idioms" for the point Kant wishes to make.<sup>11</sup> Strawson's objection springs from the conviction, shared by empiricist philosophers in general, that logic and psychology are distinct and separate fields. Popper's strongly and repeatedly expressed conviction that the psychological processes leading to a particular scientific discovery have no bearing whatever on the logical processes of its justification has already been noted.<sup>12</sup> So also has the belief of Hamlyn, Hirst and others that the psychology of learning has no bearing on the logical status of what is learned. Grounds have been given for rejecting this position as mistaken.<sup>13</sup> In the study of knowledge, philosophy and psychology have complementary and related roles. There is, in Stephen Toulmin's words, "a dialectical succession of logical priority" between questions of psychological development and of logical justification.<sup>14</sup>

Further, this demarcation between logic and psychology was not accepted by Kant himself. The most important aspect of Kant's philosophical position is his "turn to the subject". As a consequence of the turn to the subject, Kant sets out to analyse not *propositions* but *judgements*.<sup>15</sup> His starting-point takes for granted, therefore, a human action, the action of judgement, and an action requires human capacity, in this case psychological capacity. In this respect, Kant's *Critique* is closely comparable with Wittgenstein's *Philosophical Investigations*. There, Wittgenstein begins by pointing out that language has its origin in the action of speech.<sup>16</sup> There thus arises a distinction between speech as a human action and language as a set of propositions, which is exactly parallel to the distinction arising from Kant's *Critique* between judgement and propositions. It is a mistake, therefore, to refer to the psychological orientation of Kant's work merely as an "idiom". For Kant, logic was a reflection of the working of human cognition and the limits of logic were the limits of human cognition. This dependence of logic upon psychological capacity could be argued in detail. The main outlines of the position appear implicitly in the course of the thesis.

One of the most frequent and damaging criticisms of the *Critique* is the commonly accepted observation that, in his attempt to delineate the full extent of the categories of the synthetic *a priori*, Kant was dependent on Euclidean geometry, classical logic and the Newtonian world-view, all of which he accepted as axiomatic and all of which have since been shown to require substantial modification and supplementation. In effect, Kant assumes an historically constant "human nature" and takes no account of historical changes in human consciousness. The discovery of time-scale and the effects of historical process in the nineteenth century made Kant's outlook obsolete. Toulmin calls his work, "The last great *a-historical* synthesis of human thought and achievement."<sup>17</sup> The demonstrable inadequacy of Kant's description of the synthetic *a priori* tends to call into question the viability of the concept as a whole.

The modification of the Kantian framework in the present work, however, presents a means of incorporating the influence of historical development into that framework. The essence of this modification is the replacement of the relation postulated in the *Critique* between the active faculty of the understanding and the passive faculty of sensibility by a process of *interaction* in which "understanding" and "sensibility" are mutually conditioned. In Kant's original scheme the understanding is only ever active and sensibility only ever passive. The relation between them is achieved by the capacity of the imagination for the formation of schemata, a schema being a "third thing", homogeneous with both category and intuition.<sup>18</sup> Since understanding is only ever active in the process of judgement, it can never be affected, and the categories consequently modified, by the influence of the intuitions. In the process of interaction, however, this is precisely what takes place. The "categories of the understanding", which in this model are the schemata themselves, are continually being modified as a result of experience. In Kant's original description, moreover, the understanding supplies the *form* of any given judgement, while the intuitions of sensibility supply the *content*, and in this way "objects" are made "to conform to our knowledge". It is of the essence of the process of interaction, however, that the distinction between form and content does not apply to the organisation of tacit knowledge. It is, rather, a necessity of explicit, logical, inference, the kind on which Kant relied in the process of working out his account of the categories.

The influence of culture and history is not only allowable under this modification of Kant's theory but axiomatic. It has been demonstrated at length in the course of the thesis that the categories of the understanding are formed as a result of experience. This experience may be either corporate or individual. A considerable proportion of human learning consists of cultural transmission, whereby the individual grows into and makes his own the forms of experience common to his particular culture and society. Within this process of socialisation, however, there is plenty of room for distinctive individual experience and interpretation. It is, in fact,

the possibility of individual differences of experience and interpretation which prevents a culture from ossifying. The outcome is that "human nature" may be said to be both historically conditioned and yet also the outcome, in each individual case, of a process of self-definition.

It has sometimes been supposed that the recognition of the deficiency of Kant's attempt to describe and delineate the categories of the understanding must lead to the complete rejection of his framework. But this need not be the case. The rejection of Kant's description of the categories leaves untouched the arguments he deployed in the "Transcendental Deduction" to show that we do, in fact, apply categories to intuition to arrive at concepts. As Stephen Korner writes,

I take the view that even if Kant's proof of the complete list of Categories was not successful he may still claim to have established that we do apply Categories in making objective empirical judgements. This is an important fact about our thinking which Kant's empiricist predecessors did not or would not see.<sup>19</sup>

The attempt to give a complete list of the categories is logically dependent on the more fundamental argument of the "Transcendental Deduction". The main argument, therefore, is not affected by the overthrow of the subsidiary one.

In addition to this logical point, there is the evidence of the experiments of Bartlett and Bruner, to which a great deal of other similar data could be added, to the effect that perception is dependent on the application of categories.<sup>20</sup> Kant's theoretical epistemology is to be taken as a paradigm for the psychology of perception and cognition. The hypothesis is that perception is to be understood as the result of the application of categories to sensory data, and the evidence adduced above is overwhelmingly supportive of the hypothesis. What is required to make the Kantian framework plausible is an account of the nature of the categories said to be applied. This will take the place of Kant's attempted proof, the

failure of which makes his theory appear implausible. It is this which is attempted in chapter 3 of the thesis.

The replacement of Kant's list of categories by the description of tacit knowledge in chapters 2 and 3 above leaves to be resolved the question of what features of human cognition can be said to be innate. In Kant's original presentation, the whole of the categories of the understanding are required to be innate, because they can never be modified or formed by experience. Under the theory of interaction, on the other hand, a very large proportion of "tacit knowledge" is the result of experience. Yet the principle remains that without *some* initial concepts as a framework of interpretation, perception itself is impossible. Some proportion of tacit knowledge must, therefore, be innate or inborn and not the result of experience. Kant's contention that there must be a synthetic *a priori* of some form, whether or not it is of the logical form he ascribed to it, must, therefore, be upheld. In an interesting article on the relation between human cognition and the functioning of artificial intelligence, Z.Pylyshyn designates this area as "functional architecture" or the equivalent of the computer programmer's "virtual machine", the capacity of the basic level of software required for the machine to operate.<sup>21</sup> In linguistic philosophy, this area may be taken to represent what Stuart Hampshire calls the "necessities of discourse", those assumptions which underlie the possibility of language.<sup>22</sup> Exactly what is comprised by this area of innate understanding will be the subject of a subsequent section.<sup>23</sup>

### 3. Imagination

There is no clearly recognised shared understanding of "imagination" in modern psychological study, and in philosophical epistemology its definition has varied through the years.<sup>24</sup> In Kant, the imagination plays a particularly important role. Imagination is responsible for the essential process of "synthesis", or the application of the categories of the understanding to the sensible manifold, a process without which knowledge would be impossible:

Synthesis in general...is the mere result of the power of the imagination, a blind but indispensable function of the soul, without which we should have no knowledge whatsoever, but of which we are scarcely ever conscious.<sup>25</sup>

The important function thus ascribed to the imagination was taken up, among others, by Coleridge as a central feature of his explanation of the poet's craft.<sup>26</sup>

One of the most important of recent thinkers to give an important place to the imagination is Michael Polanyi. Imagination plays a key part in Polanyi's explanation of the process of scientific discovery. He was fond of quoting instances of scientists, of whom Einstein was his favourite example, whose distinctive contributions to science had their roots in "intuition". Thus Einstein was intuitively aware from the age of 16 that there was something missing in Newtonian physics, but had to work for many years before he discerned what the solution was. Discoveries such as Einstein's theory of relativity are examples of what Polanyi describes as reintegration of the "particulars" or "clues" to form a new whole. A new general theory is proposed, after the manner of a Kuhnian paradigm, to explain the existing known facts, some of which, previously overlooked, may become vitally important under the new theory.<sup>27</sup>

For Polanyi, this process amounts to a change of "vision" and the process underlying it is an extension of perception. Thus while, for Kant, imagination is an integral part of perception, Polanyi's theory of imagination is modelled on a theory of perception. A person who

puts on a pair of inverting spectacles initially has a difficult time finding his way about. But in time the brain gets used to the inverted image and he is able to function normally. Only when he eventually takes the spectacles off will he have to take time to readapt to normality. In the same way, says Polanyi, imagination reintegrates familiar particulars to form a new "vision" of reality.

Several times in his writings, Polanyi refers to Plato's dialogue, *Meno*, in which the difficulty is raised that the awareness of a problem is impossible without a sense of the solution. If all knowledge were explicit, no problem could be recognised before its solution were discovered! But if the awareness of a problem is part of tacit knowledge, then knowledge of a problem and the clues to its eventual solution may be given together. The same observations which indicate that a problem exists provide the clues to its solution. All that is needed is the reintegration of these clues into a new and more satisfactory picture. "To know what to look for," Polanyi writes, "does not lend us the power to find it. That power lies in the imagination."<sup>28</sup> Imagination is the faculty employed in the deliberate attention to the problem, the attempt to "see" the solution. Intuition is a deeper, spontaneous, non-deliberate faculty, which may be activated by the application of the imagination to reintegrate the particulars into a coherent whole.

Guidance in the search for a solution is provided by what Polanyi calls a "gradient of deepening coherence". The best solution is the one which explains the known observations most coherently. Two assumptions must be made, both of which Polanyi espouses, and which form important elements of his work. The first is the existence of an independent and coherent reality, whose coherence leads the scientist on in the attempt to picture it. Scientific theories may then be envisaged as provisional models, best attempts to describe the nature of reality. The second is the independent reality of the values expressed by the scientist in the search for scientific truth. These are to be taken as expressions of a common human reality, whose deepest level is expressed in the person. Thus it is "personal

knowledge" which acts as the underlying integrating level in all attempts to discover the nature of reality.

No theoretical approach which makes use of the terms "tacit" and "personal knowledge" can fail to acknowledge its debt to Polanyi's work, and, indeed, much of Polanyi's vision is to be found, whether tacitly or explicitly, incorporated in the present work. Polanyi was one of the first to challenge the philosophical framework which dominated post-war science, to describe perception as an heuristic skill, and to look in the direction of psychological experiments for the solution to the philosophical problems of perception. More important still is the move toward an alternative framework for the understanding not simply of scientific discovery but of perception as a whole. "What Polanyi does," writes Daniel Hardy,

is to move decisively away from the mechanical model of early modern science, where reality was seen as residing in the object or in the laws which appeared to govern the object's behaviour, and to move toward a dynamic or interactionist model, where reality is perceived in the relation between the object and its knower,<sup>29</sup>

Despite Polanyi's insistence on the independence of the real world and its important role in guiding the process of discovery, the outcome of his position is that what we *know* is to be taken only as an approximation to that reality, a model which is the creation of human imagination.

For all Polanyi's significance, his important work was written between 20 and 30 years ago, which in scientific terms is a long time. In the construction of the thesis, his work has been supplemented from a number of sources. Chief of these is Thomas Kuhn, who adds an important historical dimension to the description of the processes of scientific discovery, but more important still, an interpretative dimension more specific in its description of the logical structure of induction. As early as 1959, N.R.Hanson suggested that the "logic of scientific discovery" might be analogical in character.<sup>30</sup> Over the next 10 years or so, Kuhn succeeded in demonstrating that this was the case. Kuhn's description of the "logic of tacit inference" is more

detailed and satisfactory than the "from-to" of Polanyi's account of tacit integration.<sup>31</sup> Whereas Polanyi takes the work of the Gestalt psychologists as his starting point, Kuhn goes behind Gestalt psychology and demonstrates the reasons behind their observations. In cognitive science, the work on the structure of schemata reviewed earlier carries forward that of both Kuhn and Polanyi in the direction of greater accuracy, although leaving a great deal of progress still to be made.<sup>32</sup> The drawback of this work is that it is carried on without Polanyi's awareness of the effects and implications of his own work not simply for the philosophy of science but for philosophy in general and for theology and religion.

What Polanyi described as the imagination and as the spontaneous work of intuition has been analysed in the present work in terms of "schemata". The usage of the term "schema" to describe a component of tacit knowledge is related to Kant's use of the term. Kant describes a schema as the means by which synthesis takes place. It is a "third thing", homogeneous on the one hand with the category, and on the other with the appearance. It must be at the same time "intellectual" and "sensible".<sup>33</sup> The modern use of "schema" is not derived from Kant at all. It came into cognitive science from Sir Frederic Bartlett, who derived it from Sir Henry Head. Nowhere in *Remembering* does Bartlett show awareness of Kant's use of the term, and references to Kant in the modern literature are practically non-existent.<sup>34</sup> In both Kant and in modern usage, however, a schema is what must be applied to perceptual data before recognition takes place. It is the means by which the "manifold of intuition", the constant flow of diverse sense-impressions, is sifted and interpreted. The difference is that in cognitive theory there is no need for pure, unschematised categories of the kind which Kant painfully works out according to the rules of logic. Schemata are derived from experience, applied to experience and modified by experience. This change makes a great deal of difference to the use of the term "imagination". In Kant, the term is quite clearly defined as a third faculty operating as mediator between sensibility and understanding. But in modern theory no clear line of demarcation can be maintained between the functions of what Kant

called "understanding" and "imagination". The formation, modification and application of schemata is the subject of cognition as a whole.

As far as the form of the schemata is concerned, Kant gives an excellent description of the problem, one which has rarely been equalled in the modern literature.<sup>35</sup> According to Kant, the schema for a dog must include all the information necessary for the correct classification of any given dog. It cannot consist merely of an image of a particular dog nor yet of all the images of all the dogs so far encountered by the individual. Neither of these would allow him to recognise a previously unfamiliar example as a dog. A schema must include "rules" for the recognition of objects sufficiently flexible to allow of modification in the light of specific instances. Kuhn's description of "exemplars" as cognitive categories may be understood to meet these requirements. Exemplars are undefined categories based on similarity. The introduction of explicit definition introduces rigidity in the form of boundaries which are superfluous for the functioning of tacit knowledge. The relationship between exemplars is based on perceived similarity. The broad category "bird" includes some "central" examples such as "robin", others more peripheral, such as "turkey" or "ostrich". The basis of their connection is analogy and their relationships multi-dimensional. Whether the appropriate connection for "robin" is "raven", "aeroplane" or "Christmas" depends on the context of the discourse in which it appears.<sup>36</sup>

This description of the way in which the schemata function as the elements of tacit knowledge points to their extreme complexity - a complexity which defies complete analysis. As Kant himself wrote

The schematism of our understanding, in its application to appearances and their mere form, is an art concealed in the depths of the human soul, whose real modes of activity nature is hardly likely ever to allow us to discover, and to have open to our gaze.<sup>37</sup>

While interpreting the progress made in the study of schemata in cognitive science as a development within and clarification of the Kantian framework, it must be conceded that important questions remain to be answered. According to the earliest workers in the field

of Artificial Intelligence, complexity was the only obstacle to the complete description of the processes of human cognition. Their optimism is philosophically related to that of the early social scientists, such as J.S.Mill, who believed that the complete description of human behaviour by means of scientific laws of cause and effect was only a matter of time - the only obstacle being the extreme complexity of those laws. In the course of the thesis reasons have been given for the rejection of this position.<sup>39</sup> The analogical structure of the relationships between schemata, it is maintained, points to the need for an explanation for "intuitive fit", an explanation which is to be found in the realm of affect, which is, in turn, a reflection of the role of intention, not only in the direction of action but in the processes of cognition as a whole.<sup>39</sup>

The evidence assembled strongly indicates the role of goal orientation in cognition - the selection of information is based on what is deemed relevant to present purposes; comprehension involves intention; attitudes are predispositions to action based on constellations of values; and so on. All this points to the role in cognition of human agency. Most psychologists, it is to be acknowledged, resist the intrusion of the concept of agency into the search for the explanation of cognitive processes. The agent is equated with a *homunculus* or "little man" in the head, used as a ready-made explanation in place of a convincing, if hypothetical, process. The rule governing work in the empiricist tradition is that no additional entities are to be introduced to make the proposed mechanism "work". Thus Bartlett, for example, successfully avoids using the term "self" in this way, defining it instead as the interplay of appetites, instincts, interests and ideals, and "temperament", and "character" as due to the order of predominance of perceptual tendencies.<sup>40</sup> The same concern lies behind the search for a mechanism to account for selective attention so as to avoid the introduction of purpose.<sup>41</sup> In another context, perceptual salience, Barber and Legge avoid the use of the term "purpose" by substituting "motivational need state of the organism".<sup>42</sup> In Artificial Intelligence, the euphemism is

"executive routine", the assumption being that such routines must ultimately be reducible to process explanation.<sup>43</sup>

The position proposed here is that while it is possible to *model* intentionality by the use of processes, hypothetical or actual, such processes can never *explain* intentionality. Purpose and intention are the contribution of the human agent, whose explanation must necessarily be of a different order.<sup>44</sup> This is because certain elements in the interpretation of a given situation are to be taken as presuppositions of the act of interpretation and communication, and could never be deduced from experience alone. They include the tacit recognition of a distinction between language and the world which language describes. It is these elements which allow the possibility of *meaning* in any given situation and they arise from the fact that a person is an acting subject. The meaning of what it is to be an acting subject can, therefore, never be exhausted in description.

The philosophical orientation of the thesis as a whole requires the conclusion, therefore, that the process of cognition can never be exhaustively explained. Imagination remains, "An art concealed in the depths of the human soul, whose real modes of activity nature is hardly likely ever to allow us to discover." Herein lies a potential weakness. This weakness can be partially offset in the theological sphere. In defence of the consignment of the human agent to a special order of logical explanation, it can be argued that humanity is of a different order *theologically* to the rest of creation. This position, adopted in chapter 5 of the thesis, will be explored in a subsequent section.<sup>45</sup>

#### 4. Transcendental Idealism and the Status of the "Real"

One of the problems associated with Kant's philosophy is the difficulty attending his concept of "transcendental idealism". Kant's starting point was the empiricist description of experience as consisting of separate and fleeting impressions received by the senses. It required the application of the categories of the understanding in the process of synthesis before these fleeting sense-impressions could be made to yield an intelligible concept. The outcome is that our knowledge can never be of "things-in-themselves", or objects as they exist in the "real world". Such objects must be presumed to exist as the source of the impressions received by the senses, but the concepts which we have of objects are those produced by the process of synthesis. Those concepts conform not to the objects themselves but to the categories of the understanding.

In working out his "transcendental idealism", Kant was consciously steering a middle path between two extremes, the extremes of empiricism and rationalism, represented by Locke and Leibniz respectively. "In a word," he wrote,

Leibniz *intellectualised* appearances, just as Locke,.. *sensualised* all concepts of the understanding, i.e. interpreted them as nothing more than empirical or abstracted concepts of reflection. Instead of seeking in understanding and sensibility two sources of representations which, while quite different, can supply objectively valid judgements of things only in conjunction with each other, each of these great men hold to one only of the two, viewing it as in immediate relation to things in themselves.<sup>46</sup>

Precisely the same dichotomy exists potentially between "data driven" and "concept driven" information processing. While the one, taken by itself, requires that all mental concepts conform passively to the objects of the external world, the other, taken by itself, runs the risk of losing contact entirely with the external world and resulting in "controlled hallucination." What is required is that data driven and concept driven processing interact to produce a concept which is not a *passive copy* but an *interpretation* of the external world.<sup>47</sup>

The outcome of interaction is, therefore, the same as for Kant's theory, namely that the objects of the "real world" are to be taken as *empirically real* but *transcendentally ideal*. They are empirically real in that they produce impressions which are really disclosed to the senses and must therefore be assumed to exist independently of our concepts of them. But they are transcendentally ideal in that our concepts of objects are the result of interpretation to fit in with our overall "world model". We do not know objects in themselves, only what we make of them.

As it stands in Kant, the theory of transcendental idealism is open to certain grave objections. One of these is the anomalous position of space and time. One of the earliest objections was that of Jacobi in 1787. Kant assumes that perception is *caused* by things-in-themselves. But causation, as we understand it, must take place in space and time. Kant maintains, however, that space and time exist only as forms of our understanding and not for things-in-themselves. If that is the case, the question to arise is: how is it possible for things-in-themselves to produce impressions?<sup>48</sup>

There are several examples in the natural sciences of theories which survived initially because of the recognition of their potential explanatory power, despite a number of apparently weighty objections, which were subsequently shown to be misconceived. It is suggested here that the apparent contradiction to which Jacobi drew attention is an example of a similar case in the history of philosophy, which it has taken the discovery of the relativity of space and time and the theory of interaction to overcome. According to the theory of interaction, the concept we have of any real object will be different in some degree from the way that the object exists in itself but the concept nevertheless owes a good deal to the way that the object actually exists. Because of the replacement of the purely active role of the understanding by the process of interaction, the same may now be said of space and time also. The form of our understanding of space and time may be said to owe something to the way space and time actually exist, even though their real form remains unknown to us. Objects may

thus be said to exist and to cause sense-impressions in space and time, but the form of space and time in which they exist may well be very different from space and time as we understand them. This is precisely the situation revealed by the discovery of the relativity of space and time. With the theory of relativity and the advances in theoretical physics based upon it, the possibility is opened up that space and time may involve many more than the three spacial dimensions and one temporal involved in the form of our understanding. It is in this multi-dimensional space-time continuum that sense-impressions are caused, but the outcome of our interpretation of these impressions is the "human world" with which we are all familiar. The theory of relativity is counter-intuitive because it appears to defy the experience of space and time with which we are familiar, even though it is analytically sound and appears to have passed the test of empirical experimentation so far.

Kant's suggestion was that we may have more success in the tasks of metaphysics, "if we suppose that objects must conform to our knowledge."<sup>49</sup> Polanyi insisted that the "gradient of increasing coherence" came about as the result of the gradual conformity of the scientist's ideas with the structure of reality.<sup>50</sup> Under an interactionist scheme, these statements are complementary descriptions of the same process. The transcendental idealism of the Kantian framework is retained in that what we know is never the world "in itself" but only a model or interpretation of the world, based on experience. But that framework is modified to allow the real world to arbitrate, in the course of experience, between a good model and bad one. A person's world model is a "best approximation" to reality.<sup>51</sup>

The same may be said to apply with regard to the status of scientific theories. The "research programmes" described by Lakatos are "best possible approximations" to be understood as analogous to reality. A research programme is a "way of seeing" with the power to suggest potentially fruitful avenues of research, expose new problems requiring solution and generate progressively more adequate subsidiary models. A research programme extends itself until sufficient anomalies

arise in the research generated to expose its inherent limitations and the search begins for a better and more adequate model. The same is true of Kuhnian paradigms. Of the two possible meanings of the term, exemplar and disciplinary matrix, the second is closely comparable to Lakatos' research programmes. It is, in the words of Margaret Masterman, a "crude analogy" of finite extensibility, which fails when pushed too far due to the weight of anomalies generated in the course of "normal science".<sup>52</sup> According to Ian Hacking, the parallel between Kuhn's paradigms and Lakatos' research programmes is now widely accepted.<sup>53</sup> Both can be seen as implicitly theories of scientific progress towards increasingly adequate descriptions of the "real world". This "real world" lying behind and controlling the direction of scientific progress, in just the same way as that described by Polanyi, is empirically real, in that it discloses itself to the senses - it gives measurable observations. But it remains transcendently ideal in that while scientific theory may approach, in asymptotic manner, a genuine description of reality, the time can never arrive when that reality can confidently be said to have been fully described. It can be known only through the scientist's model.

The same may be said with regard to the "critical realism" described by Ian Barbour.<sup>54</sup> Rejecting naive realism, positivism, and instrumentalism, Barbour maintains that scientific theories are *both* representations of the world and the product of the imagination. While they *intend* to describe the real world, models and theories are incomplete and selective. They are to be taken as provisional, and yet requiring commitment - the commitment of the scientist to the model as the best available description of the world. Scientists, Barbour insists, are *actually* critical realists. They think that that what they are trying to understand is the real world, but their models are only tentative descriptions of reality. Like Kuhn's, his theory is not a prescription for the way scientists ought to behave, but a description of the way they do behave. The fact that this one position can be labelled both realism and idealism indicates the scope of interactionism - its ability to unite the respective roles of nature and scientific imagination in one coherent theory.

## 5. Necessities of Discourse

One of the problems to arise from the account of knowledge given here is that of communication. If the world each person inhabits is a psychological model of his own construction, how is mutual understanding and social co-operation possible? In the course of the thesis, two overlapping solutions have been proposed; it is the task of the present section to reflect on the philosophical aspects of these possible solutions:

1. *Verstehen*. Individuals possess the ability to "take the stance" of another. It is possible to construct for ourselves the point of view of another with regard to the whole or a specific part of a given situation. By doing so, it is possible to understand the other person's intention and the meaning he assigns to his own actions. This ability makes possible the construction of shared frames of reference, within which successful communication can take place.<sup>55</sup>

2. Socialisation. Socialisation is the general name for the great variety of formal and informal processes by which individuals harmonise their respective world models with one another. Each reference group, whether large or small, formally or informally constituted, temporary or semi-permanent, requires a shared frame of reference, understood, if not necessarily subscribed to, by all the members of the group.<sup>56</sup> A school, for example, has both a set of formal rules and an "ethos" or "hidden curriculum", broader in scope than the rules, which expresses the "way things are done". This may include the boundaries of acceptable relationships between teachers and pupils, expectations of pupil behaviour and guidelines for relations between the sexes.

The construction of shared frames of reference by means of which communication becomes possible should not be seen as an additional facility, separate and subsequent to the creation by each individual of a psychological world-view. It has been stressed, in the course of the fourth chapter, that the social context in which the individual learns to name and to value the items of his experience is inescapable. Each person encounters the world already structured by parents and other

significant authority figures, whose systems of meaning he is likely to internalise without significant reflection. Claims to knowledge based on observation take place only within culturally defined systems of concepts expressed in language. Even for the description of necessarily private experiences, such as the sensation of pain, each person relies on the means of expression provided for him by the language itself. The act of naming an object or sensation cannot be taken as the basic level at which language makes contact with reality, since descriptions even of private sensations attain meaning only within the context of shared frames of reference.

This feature of experience and language was seized upon by Peter Winch as the main point of his book, *The Idea of a Social Science*. Winch took over from Wittgenstein the term "form of life" to describe a social and cultural context, which, like a reference group, may be large- or small-scale, temporary or long-lasting, and within which rules and criteria for meaningful action are publicly recognised and rational communication is possible. It is "forms of life", Winch argued, which constitute the link between language and the world it describes.<sup>57</sup> (Whether Winch has interpreted Wittgenstein's use of the term "form of life" correctly is open to question. An alternative understanding will be referred to in the next section.) However, if the meaning of language is the outcome of forms of life, the question arises as to how communication between forms of life is possible.<sup>58</sup> Must every term be translated at the boundary between forms of life or is there some universal characteristic of human life which makes cross-cultural communication a possibility?

"Forms of life" are supposed to provide definitive contexts within which language can be used to apply to the world. However, at an earlier point in the thesis it was remarked that the relation between language and the reality it describes is itself irreducible to the terms of a description.<sup>59</sup> The essence of a form of life must, therefore, remain beyond the reach of explicit formulation. It has been established that the relationships between items of tacit knowledge do not depend on logically explicable rules or conventions but upon the

recognition of similarity relationships prior to the explicit formulation of a rule defining in what the similarity consists.<sup>60</sup> This feature of schemata may be understood as due to the fact that, as vehicles for classifying and storing knowledge of the world, they constitute an extension of the mechanism used by the body for the continual monitoring of its own position. Nor is the mechanism of memory the only aspect of human cognition firmly rooted in bodily existence. The means of perception likewise consist of physical mechanisms, and the interpretation of the data from the various different senses to form a unified impression of the position of the body in relation to the immediate surroundings is very much a bodily skill.

It is bodily mechanisms which supply the link between the world and the concepts by means of which that world is described. Thus, the presence of the body, as an object among other objects, must be taken for granted in any description of the world.<sup>61</sup> The existence of the body is a presupposition for experience rather than an inference from it. So, too, is the independently existing physical world in which the body locates itself and from which it receives perceptual data. The activity which Kant describes as "synthesis" is not, in origin, a conceptual but a bodily skill. It is at the level of bodily mechanisms that the application of a schema converts the judgement, "This feels heavy," to "This is heavy," thereby conferring "objectivity" upon the object of perception by designating it an independently existing thing.<sup>62</sup> Thus, the existence of oneself as a subject and of a real world independent of one's perception of it are both presupposed in the fact of experience.<sup>63</sup>

A further essential feature of the background of convention necessary before it is possible to describe the world is the nature of language as a means of *communication*.<sup>64</sup> The background to the naming of an object is a shared activity. A distinction is thus to be made between speech, which is an action with a specific purpose, and language, whose structure is a reflection of the variety of human purposes expressed in speech.<sup>65</sup> Examples may be given of the way in

which the structure of language reflects the activity of speech. One is predication, based on the structure of topic and comment which is an underlying feature of attention. Another is case-grammar, reflecting such features of action as the agent, the object of the action, recipient, location, possession and so on. Jerome Bruner has suggested that these features of non-linguistic convention provide the key to the task of language learning. Young children first construct a given situation for themselves pre-linguistically and then learn to symbolise it by means of language, first in non-standard forms and later in grammatically correct sentences.<sup>66</sup> In this way, they gain access to a system of communication whose formal rules defy explicit analysis. This is because the rules are pre-linguistic, irreducible to exhaustive description, consisting of the complex interplay between human beings. The presence of other human beings as rational agents with purposes similar to our own is thus a further element of the universal human situation.<sup>67</sup>

Three important elements have been isolated by inference from the preconditions of shared knowledge. These are the reality of the self, the reality of other selves and the reality of an independent shared physical world. Together, they form the fixed points against the background of which the construction of any given situation takes place. Following Stuart Hampshire, they may be called "necessities of discourse", features of the human situation without which language itself is impossible.<sup>68</sup> It is, by implication, impossible to demonstrate any one of these features of human existence by means of inference from experience. Attempts to do so may usually be found to take one or both of the other two for granted.<sup>69</sup> But behind these necessities of discourse lies the fact of the bodily basis of experience. Earlier, it was suggested that such common and seemingly inescapable features of cognition as, "Every event has a cause," may reflect the fact that knowledge arises through the medium of the body.<sup>70</sup> Here, it may further be suggested that knowledge of ourselves, of the independent world of objects and of other selves is mediated through the body.

## 6. "I"

The argument of the previous section took as its starting point the "problem" of communication. That communication can be posed as a problem is an outcome of the subject-object framework of the thesis as a whole. Within this scheme it is the possibility of the knowledge of objects and the communication of such knowledge that appear problematical. The presence of the knowing subject, by contrast, is axiomatic. However, whenever the knowing subject has become the subject of enquiry, it has been necessary to draw attention to its peculiar logical and metaphysical status.<sup>71</sup> The problems associated with the use of the concept of the subject must now be examined.

Given the broadly Kantian framework of the thesis as a whole the appropriate starting point of this examination is the transcendental ego of Kant's *Critique*. Kant maintains that it is impossible for the subject to become an object of knowledge. What can be known about it can be known only indirectly, by inference from its effects. From the activity of synthesis, in which unity is imposed on the sensible manifold, Kant argued that we are entitled to assume the existence of a continuing, single self, or "I think".<sup>72</sup> Moving on from Kant to the evaluative response to the social self, which emerges from the study of social interaction, the presence is suggested of an agent with goals and purposes, in particular, the maintenance of self-esteem and the pursuit of social acceptance.<sup>73</sup> There is, it is argued, an awareness of the underlying subject which is of quite a different kind from the knowledge of objects of experience. Such an awareness, writes H.D.Lewis, is "immediate". Awareness of oneself as subject occurs in the experience of other objects, in the knowledge that this experience is *my* experience. Reference to "I", writes A.J.Ayer is different from reference to any particular hypothetical description. But, "It is a difference which defies description." "What" I am is the subject of a description of personal history, but every detail of such a personal history *might* have been different without affecting the "Who" whose history it is. Reference to "I" is simply demonstrative, an identification of the subject of a particular history.<sup>74</sup>

Despite the logical difficulties associated with it, the presence of the active subject is an indispensable feature of the argument presented in the thesis. In Kantian theory, the existence of the transcendental ego is an *analytical consequence* of the Transcendental Deduction, which philosophically underpins the whole approach.<sup>75</sup> The addition of the social context as a new dimension to the knowing process introduces the idea of continuous interaction between the subject and the self-schema as a basic feature of the dynamic of personality formation. The importance attached to the acceptability of the image of self presented in social interaction is a reflection of the human quest for secure identity which, the evidence presented in the fourth chapter suggests, provides the dynamic for the learning process. This feature of the human situation is further illuminated by the reasons advanced in the first chapter for regarding the basic nature of human beings as an unknown factor, the quest for which lies at the heart of the theoretical systems of both philosophy and the social sciences. Finally, a theological perspective is introduced in the examination of the significance of the phrase "the image of God" as the biblical designation of human nature. It is precisely the consciousness of oneself as a free and active subject which, it is argued, constitutes an essential part of the image of God in men and women. The image of God, otherwise the essential nature of the subject, remains unknown until revealed in Jesus Christ.<sup>76</sup>

Precisely because of the centrality of this account of the subject to the thesis as a whole, it is important to consider the objections which might be made to it. The argument based on Humean empiricism, to the effect that the idea of the subject as an independent existent is a reification of what is, in fact, only an element in the process of perception, has been examined in earlier chapters.<sup>77</sup> The conclusion reached was that this argument depends upon the characterisation of perception as an essentially passive process. It was rejected on the grounds of the considerable body of evidence which seems to indicate the presence of an active subject. Another, and possibly stronger, counter-argument remains to be faced, whose essential feature is an objection to the whole subject-object

framework within which the thesis has been constructed. This subject-object framework gives rise to a duality of inner reality and outer reality, of personal psychological and shared physical worlds. Within this framework, the autonomous subject is said to be the source of independent purpose which is expressed in communication and in action.

The counter-position turns this basic framework more or less on its head. Rather than actions resulting from the presence of autonomous subjects, it is action which *gives rise to* subjects. Language, the mediator of a shared reality, enshrines a system of concepts, within which the individual is enabled to differentiate his own point of view. Self-knowledge is the creation not of the inner subject but of the shared environment. Within this alternative paradigm, the difficulties inherent in the concept of the subject are allowed full weight. The subject is a logical oddity, a mysterious, non-substantial entity, an occult existent impossible to locate.

Much of Wittgenstein's later philosophy was devoted to liberation from the metaphysical illusion he believed to be enshrined in the subject-object framework, to exposing the bewitching effect of the inside-out way of thinking inherited by Western philosophy from Descartes and Kant. Instead of the existence of the knowing subject, it is "life" which is taken for granted and "forms of life" which constitute the basic, the given.<sup>7e</sup> Forms of life are not to be interpreted as social or cultural contexts, but as basic human interactions, such as conveying anger or pity. Such interaction, Wittgenstein appeared to believe, constituted a level of communication at which human beings are transparent to one another. The ability to feign anger, pity or some other emotion is parasitic upon this basic level at which the personal experience of the emotion and its expression in bodily and facial gestures are inseparable.

This apparent equation of emotion with its expression has led many to label Wittgenstein as a behaviourist. This reaction is even less surprising when it is realised that many of the essential features of his theory were anticipated by the work of George Herbert

Mead, who termed his own position "social behaviourism".<sup>79</sup> Mead insisted that the private experience of meaning is an abstraction from the social, which is the primary level of meaning. Language, he argued, is the means of the transformation of the biological organism to the minded organism or self. Social interaction is a conversation of gestures, each gesture having as its function the determination of the next action or gesture. Thus, the *meaning* of any given gesture is simply the action to which it gives rise. Mind emerges only when the individual becomes conscious of the meaning of his own gesture by taking the role of the other. In this way, the individual becomes conscious of himself as a source of meaning.

This environmentally orientated theory of meaning is echoed in the work of social scientists in various fields, notably that of James and Eleanor Gibson in the field of perception. It is an important aspect of the work of William James, the psychologist most quoted by Wittgenstein, whose theory of the self was mentioned in an earlier chapter.<sup>80</sup> In relation to the subject, its main feature is the emergence of the subject from social interaction rather than *vice versa*. "I" becomes a point of view and "consciousness" simply the appearing of the world. The meaning of one's actions to oneself (the foundation of the Weberian approach to the study of social interaction) emerges from rather than forming the basis for their meaning to others. In this perspective, the reality of others ceases to pose a problem for philosophy; instead the presence of the other is axiomatic, in much the same way as the reality of the subject in the subject-object framework. What we have called in the previous section "necessities of discourse" cease to be "presuppositions" of the subject and are to be seen as abstractions from the forms of life, translations of the conditions of social interaction into categories of mental meaning. But, "Nothing is more wrong-headed," Wittgenstein insisted, "than calling meaning a mental activity."<sup>81</sup>

It is significant, however, that the "I-me" relationship forms a central feature of Mead's theory. Although it might be argued that as a behaviourist Mead failed to break free from the dominance of

Cartesian thinking, it might equally be asserted that the idea of the emergence of the subject from the experience of social interaction fails to do justice to the evidence for the extent of the role of the subject in perception and the formation of the self. Whilst admitting the weaknesses of the concept, it still seems possible, even under the alternative "outside-in" framework we have been exploring, to retain the idea of the independent subject, first as at least a grammatical feature of experience, then as designating a unique point of view, and from these concessions to advance to the idea of a centre of action, of the possibility of freedom of purpose and decision within the constraints of the shared environment.

Even within the strictest Wittgensteinian framework, there exists the requirement of a *capacity to relate*. "To understand language as a form, or rather as a multiplicity of forms, of expressive activity, as Wittgenstein encourages us to do, is to rehabilitate the self as a responsive agent in vital connection with others of the same kind."<sup>22</sup> The lack of a capacity to relate, or a capacity to relate only in ways so totally different from those we know as to be absolutely unintelligible, would set the individuals concerned outside the human community. The idea of the capacity to relate as the basic meaning of the "I" is precisely what we have seen to be involved in the "image of God".<sup>23</sup> The bodily nature of human beings and the social context in which human life is carried on were both seen to be integrally related to the divine image. Thus, despite the questions raised against the concept of the subject by the existence of an alternative paradigm for the understanding of the self, it seems possible to retain the idea of the individual "I" as a responsive agent.

The rehabilitation of the responsive agent takes us once again into the realm of human freedom and beyond exhaustive categorisation. In theological terms, the situation is expressed by maintaining the ultimate mystery of persons. The nature of the subject, or "who 'I' am" is a spiritual reality, something to be known only in relation to God. The image of God in men and women, expressed in relatedness and capacity for relationship, is intrinsically and significantly related

to the possession of spirit, which is the essential characteristic of human beings. The possession of spirit is expressed in a relatedness to God of all men and women, each of whom thereby participates in a universal general revelation, and a capacity for relationship to God, the possibility of which is mediated by Jesus Christ.

Probably the most significant attempt to construct a theological system which takes account of the insights of Kantian philosophy is that of Friedrich Schleiermacher. The outcome of Kant's thought appeared to be that talk of God was to be understood either as idle metaphysical speculation or as a reflection of one of the regulative principles of either pure or practical reason.<sup>84</sup> What Schleiermacher attempted to do was to make room for the awareness of God as an integral feature of human life. As he pointed out in the *Brief Outline*, one of the tasks of the theologian is to justify the place of the Church from the point of view of human experience.

Unless religious communities are to be regarded as mere aberrations, it must be possible to show that the existence of such associations is a necessary element for the development of the human spirit,<sup>85</sup>

The way in which Schleiermacher proposed to make room for a transcendent possibility in human life was by drawing upon contemporary human studies in order to suggest an expansion of the transcendental ego to include the realm of "Feeling" or "immediate self-consciousness".<sup>86</sup> The "immediacy" of self-consciousness characteristic of the realm of Feeling may be compared with the "immediacy" of the "knowledge" of oneself as subject in the course of either knowing or acting. Thus, Schleiermacher points out, joy or sorrow are immediate, as states of feeling directed wholly outward, in contrast to self-approval or self-reproach, in which the consciousness of an objective "self" is present. Feeling, he argued, supplies the connection between Knowing and Doing. The same circumstances may give rise to a difference in action between individuals, depending on their state of immediate self-consciousness. His analysis of the relation between the three is reminiscent of the way in which situations are interpreted and translated into action by means of attitudes.<sup>87</sup>

Piety, Schleiermacher went on to explain, is a particular modification of immediate self-consciousness.<sup>88</sup> The consciousness of being in relation to God is the common element in piety which distinguishes it from all other states of Feeling, and it is an element of immediate self-consciousness. The "awareness" of God available to human beings is thus of the same kind as the immediate awareness of oneself as subject. As a further stage in the argument, a new factor is introduced in order to explain the particular content and character of piety. This is the relationship of immediate self-consciousness to the social context in which Knowing and Doing take place, characterised by degrees of activity and receptivity, freedom and dependence. The development of receptivity is a normal part of consciousness. All existence, Schleiermacher writes, is existence "along with an Other". In the pursuit of piety, it is God who is the Other, whose existence "along with" us helps to form our understanding of and response to experience. In ordinary receptivity, there are degrees of freedom and dependence. In all relationships, even those of a child with his father, there is some degree of freedom. But in our relationship with God, says Schleiermacher, there is no degree of freedom. Thus, the consciousness of being in relationship with God will be a consciousness of "absolute dependence". This is the state of immediate self-consciousness which constitutes the highest state of piety.

The evidence Schleiermacher had to draw upon in support of his characterisation of piety as the feeling of absolute dependence would have included his own experience of piety and religious community. But in the context of his argument the value of this experience is limited. Observation of immediate self-consciousness itself is impossible, since it is part of the realm of the transcendental subject. All that is possible is the interpretation of what are taken to be its effects. It is the argument from the presence of degrees of freedom and dependence in relationships with other men and women which is most important. But this argument is by no means beyond dispute. What Schleiermacher has done is to run together the two types of relationship with God referred to earlier, the ontological

relationship, in which men and women as creatures are entirely dependent, and the relationship involved in the fall and redemption, in which, we have concluded, a degree of freedom is possible by God's deliberate gift.<sup>23</sup>

The idea that the state of Feeling characteristic of Christian experience is one of absolute dependence is to be rejected. There remains, however, a close comparison between the way in which Schleiermacher maintains that God is to be known, in immediate self-consciousness, and the position advanced here with respect to the relation between the Holy Spirit and the human spirit. In particular, it has been suggested that what takes place in revelation is the communication to the believer of the "identity" of Christ by means of the Holy Spirit. The particular level of human personality at which this communication takes place is that which Schleiermacher termed immediate self-consciousness. The content of the revelation, however, is not absolute dependence but the character of Christ. The presence of Christ in immediate self-consciousness or identity is answered by the knowledge of the incarnate Christ available from the biblical record. What took place in the incarnation was an accommodation of God to the conditions of human knowledge in which, in the Person of Jesus Christ, he established a relationship with human beings involving degrees of freedom and dependence. While the identity offered to the Christian might be said to include the supremely potent "God-consciousness" of Christ, this is to be understood not as historically mediated by the Christian community but as a direct gift of the Holy Spirit.

In describing the relationship between the Holy Spirit and the spirit of the believer, no attempt has been made to advance beyond the reticence of Scripture itself or the limits of the philosophical framework within which the theory as a whole moves. It has been suggested that the work of the Spirit is both to enlighten and to enable the believer, to provide a new centre for the evaluation of self and others and a new centre of agency. It has been argued that the presence of the indwelling Holy Spirit constitutes no limitation of

the agency of the believer but rather an enlargement of her freedom. It has been explained that the progressive modification of attitude, value and self image which ought to be seen as the results of Christian learning come about only as a result of the engagement of the Christian with the world on the basis of the new identity available in Christ, and that the choice of such engagement remains with the believer herself. The capacity of God to effect this kind of change in the life of a human being by means of the Holy Spirit and the manner of the relationship remains a mystery. Revelation takes place, it has been argued, where the Holy Spirit meets, touches or, in Moule's words "impinges" on the human spirit.<sup>90</sup> But the argument that this is what takes place in revelation does not rest on the direct examination of the process. Its basis is the whole theoretical framework advanced here, within which specific effects of the Spirit's work in individual Christians may be interpreted. This framework, Kantian, interactive, and involving the evaluation of persons as autonomous agents, is one in which the personal subject or transcendental ego has a logically indispensable place.

## 7. The Purpose of God in Creation

Throughout the thesis, the idea of the "image of man" or doctrine of humanity has played a central role. Such images or doctrines may be, and frequently are, explicitly formulated. For example, researchers in the Freudian tradition, or in that related to behaviourism often referred to as "learning theory", work to an explicit and definite estimate of the essential nature of men and women.<sup>91</sup> In other cases, the dominating "image of man" may be covert and unspecified. Nevertheless, even a tacit and unacknowledged image is likely to play an important guiding role in scientific research. It is the researcher's tacitly held theory of human nature by which attention is directed to potentially significant features of the evidence and which arbitrates between alternative lines of further investigation. The theory supplies those values which lie at the root of what Polanyi calls personal knowledge and are expressed in the quest for significant new insight into the human condition.<sup>92</sup>

There are thus two ways in which revelation may play a role in the social sciences, corresponding to the two types of "image of man", the explicit and the tacit. Certain aspects of the content of revelation, expressed in a theological doctrine of man, might consciously be used as a "research programme" by a theologically orientated social scientist. On the other hand, any person whose upbringing and education have taken place within a tradition which has been formed, partly or wholly, by Christian revelation will inherit a tacit "image of man" reflecting, to some extent at least, a Christian doctrine of mankind. Such a view may then colour his response to the task of research.<sup>93</sup> The quotation from Brunner given on page 31 above is intended by the author as a description of the consciousness of the "man in the street" of his own day. But the accuracy of Brunner's portrayal is dependent on the degree of influence to be ascribed to Christian doctrine in the formation of the culture he describes. The modern-day grandchildren of those Brunner intended to describe might be found to be very different in their tacit assumptions about the conditions and purpose of human life, even though the presuppositions

of tacit knowledge require the recognition of the transcendent dimension of human existence in some form.

Despite its centrality to the understanding of human existence, the doctrine of human being is also extremely problematical. Two reasons have been suggested for this, one deriving from the conditions of creation, the other from the "fallen" condition of humanity. Partly, the uncertainty is due to the nature of men and women as autonomous agents capable of development and self-definition. Partly, it is a result of sin, classically understood as estrangement from God. Just as, on the individual level, the "I" is the creator of a "self-model", at the level of culture and scientific paradigm, humanity is its own evaluator. The knowledge of one's own true nature is something which can only be reflected from the consciousness of another. Lacking an authentic knowledge of God, men and women lack also a definitive awareness of their own origin, destiny and value. It is not the "image of God" which is lost at the "fall", but the knowledge of the original of that image and, with it, the ability to interpret the image both in theory and practice.<sup>34</sup>

Despite the possibility, inherent in revelation, of a definitive appreciation of human nature along with true knowledge of God, the doctrine of humanity is equally problematical for the theologian. The reason for this is to be found in the conditions of the reception of revelation.<sup>35</sup> Revelation is understood only against the background and with the aid of prior understanding. A full appreciation of all that is given in revelation concerning the nature of mankind is achieved only as a result of a process of assimilation and accommodation, in which the categories of a prior understanding are slowly and perhaps painfully altered. If these categories are allowed to remain immune from such a process of revision, the process of formation of a doctrine of mankind fully reflecting the truth given in revelation will remain incomplete.

Reference has been made earlier to the suggestions made by David Kelsey as to the course of fruitful future development in the theology

of human being.<sup>96</sup> First, he suggests the need for the recovery of a "full-blown" doctrine of creation. This will be a doctrine in which two kinds of relationship are recognised between God and mankind. One is an ontological relationship, in which men and women are seen to be dependent upon God, who provides and upholds the means of life. The other is a relationship constituted by knowledge of God. While the second is subject to variation through sin and redemption, the other remains constant and unbroken and forms the background for any appraisal of the relationship of God to human life. Second, Kelsey suggests the need for a recovery of the vision of men and women as agents - actors rather than acted upon by circumstances outside their control. This, he believes, might be achieved as a result of liberation theology with its human scale and central concept of "praxis". Or, it might result from the revival of a conceptual scheme in which agency plays a central role.

The most difficult problem to arise from this programme is that of reconciling the autonomy involved in human agency with the radical dependence upon God required by the doctrine of creation. The idea of human agency itself seems to be threatened by observation of developments in the contemporary world. On the one hand, it is difficult to reconcile the stress on the autonomy of the human subject with those approaches which emphasise the determination of human behaviour by factors outside conscious control, whether they be social or psychological. Equally difficult is the maintenance of a vision of human autonomy, implicit in the idea of self-constitution, with the degrading poverty of such a large proportion of the world's population, the result of which is that material survival becomes the main goal of existence.<sup>97</sup>

The reconciliation of human agency with the dependence required of a creature is achieved by the separation of the two kinds of relationships, the one involving autonomy as an element of the divine constitution of mankind in creation, the other involving continuing dependence. The belief thus sustained in men and women as agents first and foremost acts as a check to threats from the various kinds of

reductionism. With its emphasis on the hermeneutical nature of cognition, the cognitive orientation integrates a wider set of determinants of human behaviour than those provided by the determinisms of sociology and psychoanalysis. In this view, behaviour is a response to an interpretation of the situation in which factors are weighted according to a person's predispositions based on past experience. Such a view undergirds the possibilities of conscientisation and praxis through which, by reinterpretation of their situation, individuals are enabled to take control of their circumstances and become makers of their own environments.

Two further questions arise from the development of the view set out in this thesis, the key to whose resolution may lie in the recovery of a doctrine of creation as the governing context for the view of human nature on which the interpretation of the reception of revelation depends. The first concerns the relationship which has been postulated between the natural mechanisms of learning and the supernatural operation of the Holy Spirit. The position which has been maintained is that revelation is received by means of the natural processes of learning and the question is whether the "naturalism" of this position is undermined by the involvement of the Holy Spirit. The second is the related question of interventionism. The concern is whether the supposed action of God by means of the Holy Spirit, arresting and redirecting the learning process, constitutes an intervention in the course of human life for which no theological basis of understanding exists.

The construction of the thesis has taken place with the first of these questions constantly in mind. Its purpose is precisely to demonstrate the plausibility of a relationship of this kind between the natural and the supernatural. If the reality of revelation is to be maintained then some kind of relationship must be postulated between nature and grace. The position advanced here is that this relationship is established by means of the contact between the Holy Spirit and the human spirit.<sup>26</sup> The possibility of such contact without disrupting the naturalism inherent in the description of the learning processes

involved in the reception of revelation depends on the kind of doctrine of creation outlined above. One of the most important outcomes of the doctrine of creation is the intrinsicity to human nature of a relatedness to God.<sup>99</sup> Men and women can be said to exist in a relatedness to God characterised not simply by dependence but also by free personal response, even where that response consists of hostility or estrangement.<sup>100</sup> It is within the parameters of this relatedness, distinctive to human beings, that the work of the Holy Spirit in revelation takes place. Examples have been given on pages 150-151 above to show how the Holy Spirit is to be understood as acting without diminishing the essential autonomy of the human agents through whom God's purpose is achieved. The same is true, it has been suggested, of the process of inspiration. Finally, the effect of the work of the Spirit in the believer is to uphold and enlarge the freedom which is his in the divine purpose.<sup>101</sup>

The second of these two related questions has already been partly answered in the discussion of the first. An estimate of the propriety of any particular action within the cosmos ascribed to God depends on a doctrine of creation. There is an enormous difference between a view of the universe as contingent and dependent for its operation on the continual direction of a divine Creator and one in which nature is governed only by its own immanent lawfulness.<sup>102</sup> From the perspective of the latter view, the actions of God in redemption and revelation are alien intrusions, redirecting the course of a self-sufficient system. From the point of view of a doctrine of creation, however, the position may be advanced that the universe exists for a particular purpose and, further, that the lawfulness displayed by the universe is a reflection of and means to the achievement of that purpose. Against this background, the plausibility of divine "intervention" may be maintained if it can be shown to uphold that lawfulness and achieve that purpose. The whole aim of this thesis has been to show that the mode of divine revelation which has been proposed is one which maintains the lawfulness of the created universe, rightly interpreted by means of a doctrine of human nature in which men and women are constituted by God as agents. As a

supplement to this position, it may further be proposed that such a revelation is an element in the divine purpose for mankind. It is suggested that this consists of the re-establishment of the sovereignty of men and women over creation and of the possibility of a free and loving relationship with God and with one another.<sup>103</sup> This, it is maintained, is the purpose of the incarnation of Jesus Christ and the gift of the Holy Spirit, a movement from God towards mankind in which revelation is an integral element.

## Notes

1. "Human Being", *Christian Theology*, ed.P.Hodgson and R.King, London; SPCK, 1982, p.165-166.
2. *Brief Outline on the Study of Theology*, Atlanta; John Knox Press, 1966, §67, p.39.
3. U.Neisser, *Cognition and Reality*, San Francisco; W.H.Freeman and Co., 1976; J.S.Bruner, "Personality Dynamics and the Process of Perceiving", *Perception: An Approach to Personality*, ed.R.R.Blake and G.V.Ramsey, New York; Ronald Press Co., 1951.
4. M.De Mey, *The Cognitive Paradigm*, London; Reidel, 1982, p.4.
5. Interaction is not to be equated with the cognitive orientation, First, because the cognitive orientation is much broader in scope than a theory of perception, embracing the philosophy of science and offering an approach to the sociology of knowledge among other applications, Secondly, because interaction is only one possible theory to account for the hermeneutical nature of perception, which is integral to the cognitive orientation. De Mey, for example, attempts a different model. Third, interaction has been proposed, by Bruner, Neisser and Bigge, for example, without reference to a broader cognitive orientation. The connection between them, however, is an important element in the overall epistemology proposed here.
6. See, for example, E.Goffman, *Frame Analysis*, Harmondsworth; Penguin, 1974.
7. Bruner's original paper appeared in a volume entitled *Perception: An Approach to Personality*. It might equally well have been entitled "Personality: An Approach to Perception".
8. Pages 92-93 above and references to Odom in bibliography.
9. This position can be illustrated by the comparison of Wittgenstein's two philosophies. Wittgenstein himself appears to have regarded his earlier formulation as capable in principle of empirical reference. The supposition that language pictures reality by means of simple logical forms ought to be capable of confirmation by the discovery of one or more of these forms. ("A Note on Logical Form", *Proceedings of the Aristotelian Society Spplementary Volume 9*, 1929, p.162-171.) It was, perhaps, the disappointment of this hope and consequently the apparent failure of this criterion which suggested the weakness of the earlier position. Certainly, the insistence that philosophy should be empirically grounded is a feature of Wittgenstein's later work, with its constant use of examples,

Moreover, the philosophical position, "The meaning of a word is its use in the language," serves as a paradigm for psychological research and has been used as such by both Bruner and Wertsch, (J. Bruner, "The Ontogenesis of Speech Acts", *Journal of Child Language* 2, 1975, p.1-19; J.V. Wertsch, "From Social Interaction to Higher Psychological Processes: A Clarification and Application of Vygotsky's Theory", *Human Development* 22, 1979, p.1-22.)

10. I. Kant, *Critique of Pure Reason*, tr. Norman Kemp Smith, London: Macmillan, 1929, B145-146, p.161; see also B149, p.163-164 and B29, p.61.

11. P.F. Strawson, *The Bounds of Sense: An Essay of Kant's Critique of Pure Reason*, London: Methuen, 1966, p.5f.

12. Above, p.36. Sir Karl Popper, *The Logic of Scientific Discovery*, London: Hutchinson, 1959, p.31.

13. Above, p.46,68.

14. S. Toulmin, "The Concept of 'Stages' in Psychological Development", *Cognitive Development and Epistemology*, ed. T. Mischel, New York: Academic Press, 1971.

15. S. Korner, *Kant*, Harmondsworth: Penguin, 1955, p.18f.

16. L. Wittgenstein, *Philosophical Investigations*, Oxford: Basil Blackwell, 2nd, ed. 1958, I.1.

17. S. Toulmin, *Knowing and Acting: An Invitation to Philosophy*, London: Macmillan, 1976, p.211.

18. See further below, p.238f.

19. Korner, *op.cit.*, p.56-57. See also D.W. Hamlyn, *Perception Learning and the Self: Essays in the Philosophy of Psychology*, London: Routledge and Kegan Paul, 1983, p.52f.

20. Above, p.53-56.

21. Z.W. Pylyshyn, "Computation and Cognition: Issues in the Foundation of Cognitive Science", *Behavioural and Brain Sciences* 3, 1980, p.111-169, p.123f.

22. S. Hampshire, *Thought and Action*, London: Chatto and Windus, 1959, p.13f.

23. Below, p.246-249.

24. According to Hume, both imagination and memory mimic or copy perception. Imagination may mix, compound, separate or divide ideas, though not invent new ones. Imagination by itself, however, is not sufficient to support belief. This requires a "particular feeling or sentiment", a more steady and intense conception than that present in imagination, *An Enquiry Concerning Human Understanding*, Oxford University Press, 2nd, ed., 1962, p.17, 47-49.

25. Kant, *Pure Reason*, A78, B103, p.112.

26. S.T.Coleridge, *Biographia Literaria*, London; Dent and Dutton, 1975, esp. chapters 10 and 13.
27. Although these points are made by Polanyi frequently throughout his work, the summary that follows is based on "The Creative Imagination", *Chemical and Engineering News* 44, 1966, p.85-93.
28. *op.cit.*, p.89.
29. D.W.Hardy, "Christian Affirmation and the Structure of Personal Life", *Belief in Science and in the Christian Life; The Relevance of Michael Polanyi's Thought for Christian Faith and Life*, ed.T.F.Torrance, Edinburgh; Handsel Press, 1980, p.74-75.
30. N.R.Hanson, "Is there a Logic of Scientific Discovery?", *Current Issues in the Philosophy of Science*, ed.H.Feigl and G.Maxwell, New York; Holt, Rinehart and Winston, 1961.
31. See above, p.80-83.
32. Above, p.84-89.
33. *Pure Reason*, A138, B177, p.181.
34. However, see D.E.Rumelhart and A.Ortony, "The Representation of Knowledge in Memory", *Schooling and the Acquisition of Knowledge*, ed.R.C.Anderson, R.J.Spiro and W.E.Montague, Hillsdale, NJ; Lawrence Erlbaum, 1977, p.100.
35. *Pure Reason*, A141, B180, p.182-183.
36. See above, p.82-83,89-90.
37. *Pure Reason*, A141, B181-182, p.183.
38. Above, p.24f., 145.
39. Above, p.91-105.
40. F.C.Bartlett, *Remembering*, Cambridge University Press, 1932, p.213.
41. Above, p.95-97 and references.
42. D.Barber and P.J.Legge, *Perception and Information*, London; Methuen, 1976, p.82-83.
43. See, for example, U.Neisser, *Cognitive Psychology*, Englewood Cliffs, NJ; Prentice-Hall, 1967, p.292-296; E.Tulving, *Elements of Episodic Memory*, Oxford University Press, 1983, p.132-134.
44. Above, p.63-67.
45. Below, p.261f.
46. *Pure Reason*, A271, B327, P.283.
47. Above, p.46-47. The phrase "controlled hallucination" is used by de Mey in his discussion of selective attention, *Cognitive Paradigm*, chapter 10.

48. Korner, *op.cit.*, p.41-42.
49. *Pure Reason*, Bxvi, p.22.
50. Above, p.236-237.
51. The plausibility of transcendental idealism remains a subject of dispute, Strawson, for example, insists that a "hard-line" interpretation of the *Critique* must conclude that the world we know is a creation of the mind, Korner objects that, "At the end of the Transcendental Analytic even the most insensitive and self-willed reader must, it would seem to me, feel convinced that the thing in itself is an important part of the Kantian philosophy." *Bounds of Sense*, p.21-22; *Kant*, p.91.
52. Above, p.20-21; M.Masterman, "The Nature of a Paradigm", *Criticism and the Growth of Knowledge*, ed.I.Lakatos and A.Musgrave, Cambridge University Press, 1970, p.76-85.
53. I.Hacking, *Scientific Revolutions*, Oxford University Press 1981, p.142.
54. I.Barbour, *Myths, Models and Paradigms*, London; SCM, 1974, p.11, 37-38, 45-48,
55. See above, p.26,113-114. Also Goffman, *Frame Analysis*.
56. Above,p.127-128.
57. Wittgenstein, *Investigations*, II.xi, p.226; P.Winch, *The Idea of a Social Science and its Relation to Philosophy*, London; Routledge and Kegan Paul, p.3-39.
58. The concrete form of this question appears in the sphere of anthropology, where the question is how it is possible for men and women from different cultures to understand one another. See, in particular S.Lukes, "Some Problems about Rationality" and M.Hollis, "The Limits of Irrationality", *Rationality*, ed.B.Wilson, Oxford; Basil Blackwell, 1960, p.194-213, 214-220; both originally published in *Archives Europeenes de Sociologie VII*, 1967, p.247-264,265-271.
59. Above, p.65-66.
60. Above, p.88-89.
61. Hampshire, *op.cit.*, p.47f.
62. *Pure Reason*, B142, p.159.
63. *ibid*, B157-159, p.168-169.
64. Wittgenstein, *op.cit.*, I.1-2.
65. The source for the argument of the following paragraphs and the experimental evidence supporting it is to be found in J.S.Bruner, "The Ontogenesis of Speech Acts", *Journal of Child Language* 2,1975, p.1-19. The quotation is from p.3.
66. See also Vygotsky's theory of the development of word meaning to be found, in particular in *Thought and Language*, M.I.T,Press, 1962.

67. See further J.Wisdom, *Other Minds*, Oxford; Basil Blackwell, 2nd.ed,1965, Also, D.R.Jones (ed), *The Private Language Argument*, London; Macmillan, 1971,
68. Hampshire, *op.cit.*, p.13-14.
69. For example, the argument of Roger Trigg for the existence of the shared physical world, *Reason and Commitment*, Cambridge University Press, 1973,
70. Above, p.76
71. See above, p.146f.
72. *Pure Reason*, A115-130, B129-169, p.141-175.
73. Above, p.146-149.
74. A.J.Ayer, *The Problem of Knowledge*, Harmondsworth; Penguin, 1956, p.184-187; H.D.Lewis, *The Elusive Mind*, London; George Allen and Unwin, 1969, p.235-248.
75. Korner, *op.cit.*, p.67.
76. Above, p.129-133, 26-32, 140-147, 148-153.
77. Above, p.130f.,136,147.
78. Wittgenstein, *loc.cit.* The interpretation of Wittgenstein's philosophy given here is based on Fergus Kerr, *Theology after Wittgenstein*, Oxford; Basil Blackwell, 1986. As Kerr himself points out, interpreters of Wittgenstein have in general been slow to appreciate the full significance of the questions he raised, possibly because they remained "bewitched" by the metaphysical viewpoint he was challenging.
79. Mead, *Mind, Self and Society from the Standpoint of a Social Behaviourist*, The book consists of papers collected, arranged and published posthumously,
80. Above, p.147.
81. *Philosophical Investigations*, I,693.
82. Kerr, *op.cit.*, p.134.
83. Above, p.142f.,152, and note 39, p.166-167.
84. *Pure Reason*, A614f., B643f., p.514f.
85. F.D.E.Schleiermacher, *Brief Outline on the Study of Theology*, Atlanta; John Knox Press, 1966, §24, p.22.
86. Schleiermacher, *The Christian Faith*, Edinburgh; T.& T.Clark, 1928, §3,p.5-12, In the letters to Dr.Lucke, Schleiermacher described himself as a "dilettante" in the field of human studies, Nevertheless, these occupy an important place in the foundation of his theology. Rather than base his theology on a position derived from human studies or interpret human studies from the point of view of a particular theological approach, his method was to attempt a new synthesis by using the insights of the two fields to interpret one another, a method comparable to the one attempted here. (verbal discussion with Prof.S.W.Sykes, 1985)

87. See above, p.102-105.
88. Schleiermacher, *op.cit.*, §4,p.12-18.
89. Kelsey, "Human Being", p.166; see above, p.151 and below, p.261f.
90. C.F.D.Moule, *The Holy Spirit*, Oxford; Mowbrays, 1978, p.7f.
91. See J.Shotter, *Images of Man in Psychological Research*, London; Methuen, 1975; D.Peck and D.Whitlow, *Approaches to Personality Theory*, London; Methuen, 1975.
92. See above, p.235-236.
93. Compare the two ways in which Christian learning may be said to take place within the sphere of revelation, p.210 above.
94. G.S.Hendry, *The Holy Spirit in Christian Theology*, London; SCM, 1957, p.117.
95. See above, p.32-34 and chapter 6, p.184.
96. Kelsey, *op.cit.*, p.165-166.
97. *ibid.*,p.164-165.
98. See above, p.171-172.
99. Kelsey, *op.cit.*, p.143.
100. See E.Brunner, *Man in Revolt; A Christian Anthropology*, London; Lutterworth Press, 1939, *passim*.
101. Above, p.209, 199.
102. See Brunner, *op.cit.*,p.542f.
103. See above p.199.

## BIBLIOGRAPHY

### Abbreviations and Publishers' Details

Abingdon	Nashville, Tenn.; Abingdon Press
<i>Ad,Ed.</i>	<i>Adult Education (Washington)</i>
<i>Am,Ps.</i>	<i>American Psychologist</i>
Academic	New York; Academic Press
Basic	New York; Basic Books
Blackwell	Oxford; Basil Blackwell
Collins	London; Collins
CUP	Cambridge University Press
Dent	London; J.M.Dent and Son
DLT	London; Darton, Longman and Todd
Eerdmans	Grand Rapids, Michigan; Wm J.Eerdmans
Erlbaum	Hillsdale, N.J.; Lawrence Erlbaum
Faber	London; Faber and Faber
Freeman	San Francisco; W.H.Freeman and Co.
GAU	London; George Allen and Unwin
Harper	New York; Harper and Row
Harvard	Cambridge, Mass.; Harvard University Press
Holt	New York; Holt, Rinehart and Winston
<i>J,Pers,Soc,Ps.</i>	<i>Journal of Personality and Social Psychology</i>
Lutterworth	London; Lutterworth Press
Macmillan	London; Macmillan
Marshall	London; Marshall, Morgan and Scott
Methuen	London; Methuen
OUP	London; Oxford University Press
<i>PAS</i>	<i>Proceedings of the Aristotelian Society</i>
Paulist	New York; Paulist Press
Penguin	Harmondsworth; Penguin
<i>Ps,Rev.</i>	<i>Psychological Review</i>
<i>Pers,Soc,Ps,B.</i>	<i>Personality and Social Psychology Bulletin</i>
<i>Rel,Ed.</i>	<i>Religious Education</i>
RKP	London; Routledge and Kegan Paul
Seabury	New York; Seabury

- SCM London: SCM Press  
*S.J.T.* *Scottish Journal of Theology*  
 SPCK London: S.P.C.K.  
 Wiley New York: John Wiley and Sons

Sources Consulted

- Abelson, Robert P. The Psychological Status of the Script Concept  
*Am. Ps.* 36, 1981, p. 715-729
- Abraham, William J. *The Divine Inspiration of Holy Scripture* OUP 1981
- Abraham, William J. *Divine Revelation* OUP 1982
- Allport, Gordon Attitudes  
*Handbook of Social Psychology*, ed. C. Murchison  
 Worcester, Mass: Clark University Press, 1935
- Allport, Gordon *Becoming: Basic Considerations for a Psychology of Personality*  
 New Haven, Conn: Yale University Press, 1955
- Anderson, John R. *Cognitive Psychology and its Implications*  
 San Francisco: W.H. Freeman, 1980
- Anderson, Ray S. *On Being Human: Essays in Theological Anthropology*  
 Eerdmans, 1982
- Anselm *Proslogion* ed. M.J. Charlesworth, OUP 1965
- Archambault, R.D. (ed) *Philosophical Analysis and Education* RKP 1965
- Astley, Jeff *A Critical Analysis of the Religious Epistemology of Ian T. Ramsey*  
 University of Durham Ph.D. 1978
- Astley, Jeff Revelation Revisited *Theology* 83, 1980, p. 695
- Astley, Jeff The Idea of God, the Reality of God and Religious Education  
*Theology* 84, 1981, p. 115-120
- Astley, Jeff The Role of Worship in Christian Learning  
*Rel. Ed.* 79, 1984, p. 243-252
- Astley, Jeff On Learning Religion: Some Theological Issues in Christian Education  
*Modern Churchman* 29, 2, 1987, p. 26-34
- Atkinson, R.F. *Knowledge and Explanation in History*  
 Ithaca, N.Y.: Cornell University Press, 1978
- Austin, John L. Other Minds *PAS* 1946, p. 76-116

## BIBLIOGRAPHY

- Austin, John L. Truth *PAS* 1950, p.117-133
- Austin, John L. *How to Do Things with Words* OUP 1962
- Austin, John L. *Sense and Sensibilia* OUP 1962
- Austin, John L. *Philosophical Papers*  
ed, J.O.Urmson and G.J.Warnock, 2nd,ed, OUP 1969
- Ayer, Alfred J. *The Foundations of Empirical Knowledge* Macmillan 1940
- Ayer, Alfred J. *The Problem of Knowledge* Penguin 1956
- Ayer, Alfred J. *Philosophy and Language*  
*The Concept of a Person and Other Essays* Macmillan 1963
- Baillie, John  
Martin, H. (eds) *Revelation* London: Faber and Faber, 1937
- Baillie, John *Our Knowledge of God* OUP 1939
- Baillie, John *The Idea of Revelation in Recent Thought*  
New York: Columbia University Press, 1956
- Bambrough, J,Renford *John Wisdom; Twelve Essays* Blackwell 1974
- Bandura, Albert *Behaviour Theory and the Models of Man*  
*Am.Ps.*,29,1974,p,859-869
- Bandura, Albert *The Self-System in Reciprocal Determinism*  
*AmPs.*,33,1978,p,344-358
- Barber, Paul J.  
Legge, David *Perception and Information* Methuen 1976
- Barbour, Ian *Issues in Science and Religion* SCM 1966
- Barbour, Ian *Myths, Models and Paradigms* SCM 1974
- Barrett, C.K. *A Commentary on the Second Epistle to the Corinthians*  
London: A & C,Black, 1973
- Barth, Karl *Anselm: Fides Quaerens Intellectum* SCM 1960
- Barth, Karl *Church Dogmatics I/1* Clark 2nd,ed. 1975
- Barth, Karl *No! Answer to Emil Brunner*  
*Natural Theology* ed,J.Baillie Edinburgh; J.and J.Gray, 1946
- Barth, Karl *Church Dogmatics I/2* Clark 1956
- Barth, Karl *Church Dogmatics II/2* Clark 1957
- Barth, Karl *Church Dogmatics III/1* Clark 1958







## BIBLIOGRAPHY

- Congar, Yves M-J. *I Believe in the Holy Spirit, 3 vols.*  
London: Geoffrey Chapman, 1983
- Conger, John J. *Adolescence and Youth* Harper 2nd.ed,1973
- Cooper, Joel  
Croyle, Robert T. Attitudes and Attitude Change  
*Annual Review of Psychology*, 1984, p.395-426
- Craik, Fergus I.M. Levels of Processing: A Framework for Memory Research  
Lockhart, Robert S. *Journal of Verbal Learning and Behaviour 11*, 1972, p.671-684
- Craik, Kenneth J.W. *The Nature of Explanation* CUP 1943
- Cropley, A.J. *Lifelong Learning: A Psychological Analysis*  
UNESCO; Pergamon Press, 1977
- Cross, Kathryn P. *Adults as Learners* San Francisco; Jossey-Bass 1981
- Cullmann, Oscar *Christ and Time* SCM 1951
- Cully, Iris V. *Process and Relationship; Issues in Theology, Philosophy and*  
Brubaker, Kendig (eds) *Religious Education* REP 1978
- Danto, Arthur C. *Analytical Philosophy of Knowledge* CUP 1968
- De Mey, Marc *The Cognitive Paradigm* London; Reidel, 1982
- Descartes, Rene *Meditations* New York; Bobbs-Merrill, 1951
- Dewey, John *Experience and Education* New York; Macmillan, 1938
- Dilman, Ilham *Philosophy and Life; Essays on John Wisdom*  
The Hague; Martinus Nijhoff, 1984
- Donaldson, Margaret *Children's Minds* Glasgow; Fontana, 1978
- Downing, F.Gerald *Has Christianity a Revelation?* SCM 1964
- Dragas, George *Henanthropos or Egeneto Anthropos? A Neglected Aspect of*  
Athanasius' Christology  
*Studia Patristica 16*, 1985, p.281-294
- Dreyfus, Herbert L. *What Computers Can't Do; A Critique of Artificial Reason*  
Harper 1972; 2nd.ed. San Francisco; W.H.Freeman 1979
- Dreyfus, Herbert L. Holism and Hermeneutics  
*Review of Metaphysics 34*, 1980, p.3-23
- Dunn, James D.G. *Baptism in the Holy Spirit* SCM 1970
- Durka, Gloria  
Smith, Joanmarie *Emerging Issues in Religious Education*  
Paulist 1976







## BIBLIOGRAPHY

- Gibson, James J.      Observations on Active Touch      *Ps,Rev,69*, 1962, p.477-491
- Gibson, James J.      *The Ecological Approach to Visual Perception*  
Boston: Houghton-Mifflin, 1979
- Gill, J.H.      The Tacit Structure of Religious Knowing  
*International Philosophical Quarterly 9*, 1969, p.533-559
- Gillespie, V.Bailey      *Religious Conversion and Personal Identity*      REP 1979
- Girzaitis, L.      *The Church as Reflective Community: Models of Adult Religious Learning*  
West Mystic, Conn.: Twenty-Third Press, 1977
- Goffman, Erving      *Frame Analysis*      Penguin 1974
- Gordon, Chad      *The Self in Social Interaction, vol.1: Classic and*  
Gergen, Kenneth J.(eds) *Contemporary Perspectives*      Wiley 1968
- Gorman, Margaret      Moral and Faith Development in Seventeen-Year-Old Students  
*Rel.Ed,71*, 1978, p.640-655
- Gorringe, Timothy      *Redeeming Time*      DLT 1986
- Goslin, David A.      *A Handbook of Socialisation Theory and Research*  
Chicago: Rand McNally and Co., 1969
- Gray, John      *I & II Kings*      SCM 1964
- Greenwald, Anthony G.      Twenty Years of Cognitive Dissonance; A Case Study of the  
Ronis, David L.      Evolution of a Theory      *Ps,Rev,85*, 1978, p.53-57
- Greenwald, Anthony G.      The Totalitarian Ego; Fabrication and Revision of Personal  
History      *Am,Ps,35*, 1980, p.603-618
- Groome, Thomas H.      *Christian Religious Education*  
San Francisco: Harper and Row, 1980
- Gruber, Howard      *The Essential Piaget*      RKP 1977  
Voneches, Jacques
- Gunton, Colin E.      *Yesterday and Today; A Study of Continuities in Christology*  
DLT 1982
- Gunton, Colin E.      *Enlightenment and Alienation*      Marshall 1985
- Gutierrez, Gustavo      *A Theology of Liberation*      SCM 1974
- Hacking, Ian      *Scientific Revolutions*      OUP 1981
- Hanlyn, D.W.      *The Theory of Knowledge*      Macmillan 1970
- Hanlyn, D.W.      *Perception, Learning and the Self; Essays in the Philosophy of Psychology*  
RKP 1983

## BIBLIOGRAPHY

- Hampshire, Stuart      *Thought and Action*      London; Chatto and Windus, 1959
- Hanson, N,Russell      *Patterns of Discovery*      CUP 1958
- Hanson, N,Russell      Is there a Logic of Scientific Discovery?  
*Current Issues in the Philosophy of Science*  
ed,H,Feigl and G,Maxwell, Holt 1961
- Hanson, N,Russell      *Perception and Discovery*      Freeman 1969
- Hardy, Daniel W,      Religious Education - Truth Claims or Meaning Given?  
*Religious Education in a Pluralistic Society*  
ed, M,C,Felderhof, London; Hodder and Stoughton, 1985
- Harre, Rom  
Secord, P.F.      *The Explanation of Social Behaviour*      Blackwell 1972
- Hart, Ray L.      *Unfinished Man and the Imagination; Toward an Ontology and a  
Rhetoric of Revelation*      Seabury 1979
- Havighurst, Robert J,      *Human Development and Education*  
London; Longmans, Green and Co., 1953
- Helm, Paul      *The Divine Revelation*      Marshall 1982
- Hendry, George S,      *The Holy Spirit in Christian Theology*      SCM 1957
- Henle, Mary      The Relationship between Logic and Thinking  
*Ps.Rev.69, 1962, p,366-378*
- Hennessy, T,(ed)      *Values and Moral Development*      Paulist 1977
- Heron, Alasdair      *The Holy Spirit*      Marshall 1983
- Heywood, David S,      Piaget and Faith Development: A True Marriage of Minds?  
*British Journal of Religious Education 8,2,1986, p.72-78*
- Heywood, David S,      *Theology or Social Science? The Theoretical Basis for  
Christian Education*  
Durham; North of England Institute for Christian Education, 1986
- Heywood, David S,      Christian Education as Enculturation: The Life of the  
Community and its Place in Christian Education in the Work  
of John H,Westerhoff III  
*British Journal of Religious Education, Autumn 1987*
- Hilgard, E.R,  
Bower, Gordon H,      *Theories of Learning*  
5th,ed, New York; Appleton-Century-Croft, 1981
- Hirst, Richard J,      *The Problems of Perception*      GAU 1959
- Hirst, Paul H,  
Peters, Richard S,(eds)      *The Logic of Education*      RKP 1970

## BIBLIOGRAPHY

- Hirst, Paul H. Christian Education: A Contradiction in Terms  
*Learning for Living 11*, 1972, p.6-11
- Hobbes, Thomas *Leviathan* Collins 1962
- Holley, Raymond *Religious Education and Religious Understanding* RKP 1978
- Howe, Michael J.A. *The Psychology of Human Learning* Harper 1980
- Hudson, W.H. *Wittgenstein and Religious Belief* Macmillan 1975
- Hull, Jay G. The Organisation Functions of the Self; An Alternative to  
Levy, Alan S. the Duval and Wicklund Model of Self-Awareness  
*J.Pers.Soc.Ps*, 37, 1979, p.756-768
- Hull, John M. Christian Theology and Educational Theory: Can There Be  
Connections?  
*British Journal of Educational Studies 24*, 1976, p.127-143  
*Studies in Religion and Education*, p.229-248
- Hull, John M. From Christian Nurture to R.E.: The British Experience  
*Rel.Ed*, 73, 1978, p.124-143  
*Studies in Religion and Education*, p.27-44
- Hull, John M. *Studies in Religion and Education*  
Lewes, Sussex; Falmer Press, 1984
- Hull, John M. *What Prevents Christian Adults From Learning?* SCM 1985
- Hume, David *A Treatise of Human Nature* 2 vols, Dent 1911
- Hume, David *An Enquiry Concerning the Human Understanding*  
ed. with *Enquiry concerning the Principle of Morals*  
Oxford; Clarendon 1962
- Hunter, David R. *Christian Education as Engagement* Seabury 1963
- Illich, Ivan *Deschooling Society* Penguin 1973
- James, William *Principles of Psychology* 3 vols, Harvard 1981
- James, William *The Varieties of Religious Experience* London; Longmans 1952
- Jaspers, Karl *The Great Philosophers; The Foundations*  
London; Rupert Hart-Davies, 1962
- Jenkins, David *The Glory of Man* SCM 1967
- Jones O.R.(ed) *The Private Language Argument* Macmillan 1971
- Judd, Charles M. Schematic Effects of Social Attitudes on Information  
Kulik, James A. Processing and Recall *J.Pers.Soc.Ps*, 38, 1980, p.569-578
- Kant, Immanuel *Critique of Pure Reason*  
tr. Norman Kemp Smith Macmillan 1929

## BIBLIOGRAPHY

- Kant, Immanuel      *Anthropology from a Pragmatic Point of View*  
The Hague; Martinus Nijhoff, 1974
- Kegan, Robert      *The Evolving Self; Problem and Process in Human Development*  
Harvard 1982
- Kelsey, David      *The Use of Scripture in Recent Theology*      SCM 1975
- Kelsey, David      Human Being  
*Christian Theology*, ed,P.Hodgson and R.King      SPCK 1982
- Kenny, Anthony      *Wittgenstein*      Penguin 1973
- Kerr, Fergus      *Theology after Wittgenstein*      Blackwell 1986
- Kidd, James R.      *How Adults Learn* 2nd,ed, New York; Association Press, 1973
- Knowles, Malcolm S.      *The Modern Practice of Adult Education*  
Revd,ed, Chicago; Follett/Association Press, 1980
- Knox, Ian P.      *Above or Within? The Supernatural in Religious Education*  
Mishawa, Ind.; Religious Education Press, 1976
- Kohlberg, Lawrence      The Child as Moral Philosopher  
*Psychology Today*, 1968, p.25-30
- Kohlberg, Lawrence      From Is to Ought; How to Commit the Naturalistic Fallacy and  
Get Away with It in the Study of Moral Development  
*Cognitive Development and Epistemology*, ed.T.Mischel, p.151-235
- Kohlberg, Lawrence      Development as the Aim of Education  
Mayer, Rochelle      *Harvard Educational Review* 42, 1972, p.449-496
- Kohlberg, Lawrence      The Claim to Moral Adequacy of a Highest Stage of Moral  
Development      *Journal of Philosophy* 70, 1973, p.630-646
- Kohlberg, Lawrence      *The Philosophy of Moral Development; Moral Stages and the  
Idea of Justice*      San Francisco; Harper and Row, 1981
- Korner, W.Stephen      *Kant*      Penguin 1955
- Kuhn, Thomas S.      *The Structure of Scientific Revolutions*  
2nd,ed, University of Chicago Press, 1969
- Kuhn, Thomas S.      Logic of Discovery or Psychology of Research?  
*Criticism*, ed,Lakatos and Musgrave, p.1-22  
*The Philosophy of Karl Popper*, ed,P.A.Schlipp,  
La Salle, Ill.; Open House Publishing Company, 1974, p.789-819  
*Essential Tension*, p.266-292
- Kuhn, Thomas S.      Second Thoughts on Paradigms  
*The Structure of Scientific Theories*, ed,F.Suppe  
Urbana; University of Illinois Press, 1974, p.459-482  
*Essential Tension*, p.293-319

## BIBLIOGRAPHY

- Kuhn, Thomas S. *The Essential Tension; Selected Studies in Scientific Tradition and Change* University of Chicago Press, 1977
- Kuiper, N.A.,  
Rogers, T.A. Encoding of Personal Information; Self-Other Differences  
*J.Pers,Soc,Ps.* 37, 1979, p.499-514
- Kung, Hans *Does God Exist?* London; Collins, 1980
- Lakatos, Imre  
Musgrave, Alan *Criticism and the Growth of Knowledge* CUP 1970
- Lakoff, George  
Johnson, Mark The Metaphorical Structure of the Human Conceptual System  
*Perspectives on Cognitive Science*, ed, Norman,
- Lampe, Geoffrey W.H. *God as Spirit* OUP 1977
- Langford, T.A. Michael Polanyi and the Task of Religion  
*Journal of Religion* 46, 1966, p.45-55
- Lee, James Michael *The Shape of Religious Instruction* REP 1971
- Lee, James Michael *The Flow of Religious Instruction* REP 1973
- Lee, James Michael *The Content of Religious Instruction* REP 1986
- Lessing, Gotthold F. *Lessing's Theological Writings*  
ed, Henry Chadwick Black 1956
- Lewin, Kurt *A Dynamic Theory of Personality* New York; McGraw Hill, 1935
- Lewin, Kurt *Principles of Topological Psychology*  
New York; McGraw Hill, 1936
- Lewin, Kurt Behaviour and Development as a Function of the Total  
Situation  
*Manual of Child Psychology* ed, L. Carmichael, Wiley 1946
- Lewis, H.D. *The Elusive Mind* GAU 1969
- Lloyd, Peter et.al. *Introduction to Psychology* Fontana 1984
- Loder, James E. *The Transforming Moment; Understanding Convictional  
Experiences* San Francisco: Harper and Row, 1981
- Lofland, John  
Stark, Rodney Becoming a World-Saver; A Theory of Conversion to Deviant  
Perspective  
*American Sociological Review* 30, 1965, p.862-875
- Lonergan, Bernard M.J. *Method in Theology* DLT 1972
- Lonergan, Bernard M.J. *Philosophy of God, and Theology* DLT 1973
- Long, Huey B. Adult Cognition; Piagetian Based Research Findings  
McCrary, Kay and Ackerman, Spencer *Ad, Ed, 30*, 1979, p.3-18

## BIBLIOGRAPHY

- Lossky, Vladimir      *In the Image and Likeness of God*  
New York; St.Vladimir's Seminary Press, 1974
- Lovell, R.Bernard      *Adult Learning*      London; Croom Helm, 1982
- Lowe, Gordon      *The Growth of Personality*      Penguin 1972
- Lynch, William      *Images of Faith*  
Notre Dame, Ind.; University of Notre Dame Press, 1973
- MacDonald, James      A Transcendental Developmental Ideology of Education  
*Heightened Consciousness, Cultural Revolution and Curriculum Theory* ed. W.Pinar  
Berkeley, Calif.; McCutchan Pub.Corp., 1974
- MacIntyre, Alasdair C.      The Logical Status of Religious Belief  
*Metaphysical Beliefs*, ed.MacIntyre      SCM 1957
- MacIntyre, Alasdair C.      *Sociological Theory and Philosophical Analysis*  
Emmet, Dorothy M.      Macmillan 1970
- Macmurray, John      *Reason and Emotion*      Faber 1935
- Macnamara, John      The Cognitive Basis of Language and Learning in Infants  
*Ps.Rev. 79, 1972, p.1-13*
- Macnamara, John      *Names for Things; A Study of Human Learning*  
M.I.T.Press, 1982
- Markus, Hazel      Self-Schemata and Processing Information about the Self  
*J.Pers.Soc.Ps. 35, 1977, p.63-78*
- Marshall, I.H.      *I Believe in the Historical Jesus*  
London; Hodder and Stoughton, 1977
- Marthaler, Berard      Towards a Revisionist Model in Catechetics  
*The Living Light 13, 1976, p.458-469*
- Martin, David A.      The Status of the Human Person in the Behavioural Sciences  
*Technology and Social Justice*, ed.R.H.Preston      SCM 1971
- Marwick, Arthur      *The Nature of History*      Macmillan 1970
- Masterson, Patrick      Experience and the Affirmation of God      *Neue Zeitschrift fur Systematische Theologie und Religionsphilosophie 22, 1980, p.17-32*
- McArthur, Leslie Z.      Illusory Causation and Illusory Correlation; Two Epistemological Accounts      *Pers.Soc.Ps,B,6, 1980, p.507-519*
- McArthur, Leslie Z.      Causal Attribution to Salient Stimuli; An Investigation of Visual Fixation Mediators      *Pers.Soc.Ps,B,7, 1981, p.547-553*  
Ginsberg, Elise
- McDonagh, Eileen M.      Attitude Changes and Paradigm Shifts  
*Social Studies of Science 6, 1976, p.51-76*



## BIBLIOGRAPHY

- Miller, Randolph Crump *Christian Education as a Theological Discipline and Method*  
*Rel, Ed, 45*, 1953, p.409-414  
*Who are We?* ed, Westerhoff, p.110-122
- Miller, Randolph Crump *The Theory of Christian Education Practice* REP 1980
- Minsky, Marvin *A Framework for Representing Knowledge*  
*The Psychology of Computer Vision*,  
 ed, P.H. Winston New York; McGraw-Hill, 1975
- Minsky, Marvin *K-lines; A Theory of Memory*  
*Cognitive Science 4*, 1980, p.117-133  
*Perspectives on Cognitive Science*, ed, D.A. Norman
- Mischel, Theodore (ed) *Human Action* Academic 1969
- Mischel, Theodore (ed) *Cognitive Development and Epistemology* Academic 1971
- Mischel, Theodore *Psychological Explanations and their Vicissitudes*  
*Nebraska Symposium on Motivation 23*, ed, W.J. Arnold  
 Lincoln; University of Nebraska Press, 1976
- Mischel, Theodore (ed) *The Self* Blackwell 1977
- Mischel, Walter *Toward a Cognitive Social Learning Reconceptualisation of*  
*Personality* *Ps, Rev, 80*, 1973, p.252-283
- Mischel, Walter *On the Interface of Cognition and Personality: Beyond the*  
*Person-Situation Debate* *Am. Ps, 34*, 1979, p.740-754
- Mischel, Walter *Introduction to Personality* 3rd, ed, Holt 1981
- Mitchell, Basil *The Justification of Religious Belief* Macmillan 1973
- Mitchell, Basil *Does Christianity Need a Revelation?*  
 Wiles, Maurice *Theology 83*, 1980, p.103-114
- Moberly, R.C. *Atonement and Personality* London; John Murray, 1901
- Moltmann, Jurgen *Man* SPCK 1971
- Moran, Gabriel *Two Languages of Religious Education*  
*Living Light 14*, 1977, p.7-15
- Moran, Gabriel *Religious Education Development; Images for the Future*  
 Minneapolis, Minn.; Winston Press, 1983
- Moray, Neville *Attention; Selective Processes in Vision and Hearing*  
 London; Hutchinson, 1969
- Moray, Neville *A Theory and the Measurement of Attention*  
 Fitter, Mike *Attention and Performance 4*, ed, S. Kornblum Academic 1973
- Morris, Leon *I Believe in Revelation* London; Hodder and Stoughton, 1976

## BIBLIOGRAPHY

- Moule, Charles D.F, *The Epistles to the Colossians and to Philemon* CUP 1968
- Moule, Charles D.F, *The Holy Spirit* Oxford; Mowbrays, 1978
- Munsey, Brenda (ed) *Moral Development, Moral Education and Kohlberg* REP 1980
- Mussen, Paul H, *Handbook of Child Psychology* 4th,ed,Wiley 1983
- Neisser, Ulric *Cognitive Psychology*  
Englewood Cliffs, N.J.; Prentice-Hall, 1967
- Neisser, Ulric *Cognition and Reality* Freeman 1976
- Nelson, C.Ellis *Where Faith Begins* Atlanta; John Know Press, 1967
- Neville, Gwen Kennedy *Learning Through Liturgy* Seabury 1978  
Westerhoff, John H.
- Newbigin, Lesslie *The Household of God* SCM 1957
- Niebuhr, H.Richard *The Meaning of Revelation* Macmillan 1960
- Niebuhr, H.Richard *Radical Monotheism and Western Culture*  
Lincoln; University of Nebraska Press, 1960
- Niebuhr, H.Richard *The Responsible Self* Harper 1963
- Niebuhr, Reinhold *The Nature and Destiny of Man*  
2 vols, New York; Charles Scribners Sons, 1941
- Nielson, Kai *Contemporary Critiques of Religion* Macmillan 1971
- Norman, Donald A, *Toward a Theory of Memory and Attention*  
*Ps,Rev,75, 1968, p,522-536*
- Norman, Donald A, *Memory and Attention; An Introduction to Human Information Processing*  
2nd,ed,Wiley 1976
- Norman, Donald A, *Comments on Learning Schemata and Memory Representation*  
Gentner, Donald R, *Cognition and Instruction*, ed,D,Klahr  
Stevens, Albert L, Erlbaum 1976
- Norman, Donald A.(ed) *Perspectives on Cognitive Science*  
Norwood, N.J.; Ablex, 1981
- Odom, Richard D, *Problem Solving and the Perceptual Salience of Variability and Constancy; A Developmental Study*  
Guzman, Richard D, *Journal of Experimental Child Psychology 9, 1970, p,156-165*
- Odom, Richard D, *Development of Hierarchy of Dimensional Salience*  
Guzman, Richard D, *Developmental Psychology 6, 1972, p,271-287*
- Odom, Richard D, *Perceptual Salience and Children's Multi-Dimensional Problem Solving*  
Corbin, D.W, *Child Development 44, 1973, p,425-432*

## BIBLIOGRAPHY

- Odom, Richard D.,  
Astor, E.C.,  
Cunningham, J.G.      Effects of Perceptual Salience on the Matrix Task  
Performance of Four- and Six-Year-Old Children  
*Child Development* 46, 1975, p.758-762
- Odom, Richard D.,  
Cunningham, J.G.,  
Astor, E.C.      Adults thinking the way we think children think, but  
children don't always think that way; A study of perceptual  
salience and problem solving  
*Bulletin of the Psychonomic Society* 6, 1975, p.545-548
- Odom, Richard D.      A Perceptual Salience Account of Decalage Relations and  
Developmental Change  
*Alternatives to Piaget*, ed,Siegel and Brainerd  
Academic 1978
- O'Donovan, Oliver      *Begotten or Made?*      OUP 1984
- O'Hare, Padraic      *Foundations of Religious Education*      Paulist 1978
- O'Hare, Padraic      Religious Education: Neo-Orthodox Influence and Empirical  
Corrective      *Rel,Ed,73*, 1978, p.627-639
- Oldfield, R.C.      Memory Mechanisms and the Theory of Schemata  
*British Journal of Psychology* 45, 1954, p.14-23
- Oldham, J.H.      Approach to Adult Christian Education  
*Adult Education (London)* 25, 1952, p.38-46
- Orteza y Miranda, Evelina      Some Problems with the Expression, "Christian Education"  
*British Journal of Religious Education* 8,2,1986, p.94-102
- Pannenberg, Wolfhart      *What is Man?*      Philadelphia: Fortress Press, 1970
- Pannenberg, Wolfhart      *Theology and Philosophy of Science*      DLT 1976
- Pannenberg, Wolfhart      *Anthropology in Theological Perspective*      Clark 1985
- Parkes, Colin Murray      *Bereavement*      Penguin 2nd.ed, 1986
- Paterson, R.W.K.      *Values, Education and the Adult*      RKP 1979
- Pears, David F.      *Wittgenstein*      Fontana 1971
- Pears, David F.      *What is Knowledge?*      GAU 1972
- Peck, David  
Whitlow, David      *Approaches to Personality Theory*      Methuen 1975
- Peters, Richard S.(ed)      *The Concept of Education*      RKP 1967
- Peters, Richard S.(ed)      *The Philosophy of Education*      OUP 1973
- Phillips, John      Theory, Practice and Basic Beliefs in Adult Education  
*Ad,Ed,31*, 1981, p.93-106

## BIBLIOGRAPHY

- Piaget, Jean                    *Logic and Psychology*                    Manchester University Press 1953
- Piaget, Jean  
Inhelder, Barbel                *The Growth of Logical Thinking from Childhood to Adolescence*  
Basic 1958
- Piaget, Jean                    Comments on Vygotsky's Critical Remarks concerning *The*  
*Language and Thought of the Child* and *Judgement and*  
*Reasoning in the Child.*                    M.I.T.Press, 1962
- Piaget, Jean                    *The Child's Conception of Space*                    RKP 1967
- Piaget, Jean  
Fraisse, Paul  
Reuchlin, M.                    *Experimental Psychology; Its Scope and Methods, I, History*  
*and Method*                    RKP 1968
- Piaget, Jean  
Inhelder, Barbel                *The Psychology of the Child*                    RKP 1969
- Piaget, Jean                    Piaget's Theory  
*Carmichaels Manual of Child Psychology* ed.P.A.Mussen  
vol,3 and vol 4, Wiley 1970 and 1983
- Piaget, Jean                    *Genetic Epistemology*                    Columbia University Press, 1970
- Piaget, Jean                    *Insights and Illusions of Philosophy*                    RKP 1971
- Piaget, Jean                    *Structuralism*                    RKP 1971
- Piaget, Jean                    *The Principles of Genetic Epistemology*                    RKP 1972
- Piaget, Jean                    Intellectual Evolution from Adolescence to Adulthood  
*Human Development 15, 1972, p.1-12*
- Piveteau, Didier-Jacques  
Dillon, J.T.                    *Resurgence of Religious Education*                    REP 1977
- Polanyi, Michael                *Personal Knowledge; Toward a Post-Critical Philosophy*  
RKP 1958
- Polanyi, Michael                *The Study of Man*                    RKP 1959
- Polanyi, Michael                Faith and Reason                    *Journal of Religion 41, 1961, p.237-247*
- Polanyi, Michael                Knowing and Being                    *Mind 70, 1961, p.458-470*  
*Knowing and Being, p.123-137*
- Polanyi, Michael                The Unaccountable Element in Science  
*Philosophy 37, 1962, p.1-14*  
*Knowing and Being, p.105-120*
- Polanyi, Michael                The Structure of Consciousness                    *Brain 88, 1965, p.799-810*  
*Knowing and Being, p.211-224*







## BIBLIOGRAPHY

- Smith, Frank                    *Understanding Reading*                    3rd,ed,Holt 1982
- Smith, Steven G.                *The Argument to the Other; Reason Beyond Reason in the  
Thought of Karl Barth and Emmanuel Levinas*  
Chico, Calif; Scholars Press, 1983
- Smith, Steven G.                Karl Barth and Fideism; A Reconsideration  
*Anglican Theological Review* 66, 1984, p.64-77
- Smith, Wilfred Cantwell *The Meaning and End of Religion*                    SPCK 1978
- Snaith, Norman H.              *The Distinctive Ideas of the Old Testament*  
London; Epworth Press, 1944
- Sponheim, Paul                 The Knowledge of God  
*Christian Dogmatics*, ed.C.E.Braaten and R.W.Jenson, vol I,  
Philadelphia; Fortress Press, 1984, p.197-264
- Stace, W.T.                      The Problem of Unreasoned Beliefs  
*Mind* 54, 1945, p.27-49, 122-147
- Stephens, M.D,  
Roderick, G.W.(eds)            Teaching Techniques in Adult Education  
London; David Charles, 1971
- Stevenson, J. (ed)               *Creeds, Councils and Controversies*                    SPCK 1966
- Stevenson, Leslie               *Seven Theories of Human Nature*                    OUP 1974
- Stevenson, Leslie (ed)        *The Study of Human Nature*                    OUP 1981
- Stokes, Kenneth (ed)         *Faith in the Adult Life Cycle*  
Minnesota; Saddlier Press, 1982
- Strawson, P.F.                 *The Bounds of Sense; An Essay on Kant's Critique of Pure  
Reason*                    Methuen 1966
- Strongman, K.T.                *The Psychology of Emotion*                    Wiley 1973
- Stroup, George W.              *The Promise of Narrative Theology*                    SCM 1984
- Stroup, George W.              Revelation  
*Christian Theology*, ed.P.Hodgson and R.King                    SPCK 1982
- Swinburne, Richard            *The Evolution of the Soul*                    OUP 1986
- Taylor, Charles                 *The Explanation of Behaviour*                    RKP 1964
- Taylor, Charles                 Interpretation and the Sciences of Man  
*Review of Metaphysics* 25, 1971, p.3-51  
*Philosophy of Society*, ed.R.Bechler and A.R.Drengson, 1978
- Taylor, Charles                 Understanding in Human Science  
*Review of Metaphysics* 34, 1980, p.25-38

## BIBLIOGRAPHY

- Taylor, Shelley E. Point of View and Perceptions of Causality  
Fiske, Susan T. *J. Pers. Soc. Ps.* 32, 1975, p.439-445
- Taylor, Shelley E. The Generalisability of Salience Effects  
Crocker, J., Fiske, S.T., Sprinzen, M., Winkler, J.T. *J. Pers. Soc. Ps.* 37, 1979, p.357-368
- Taylor, Shelley E. Stalking the Elusive "Vividness" Effect  
Thompson, Suzanne C. *Ps. Rev.* 89, 1982, p.155-181
- Tedeschi, James T. Cognitive Dissonance: Private Ratiocination or Public  
Schlenker, Barry R. Spectacle? *American Scientist* 26, 1971, p.685-695  
Bonoma, Thomas V.
- Thomas, Owen C. *God's Activity in the World: The Contemporary Problem*  
Chico, Calif: Scholars Press, 1983
- Thompson, Norma H. Current Issues in Religious Education  
*Rel. Ed.* 73, 1978, p.613-618
- Thompson, Norma H. *Religious Education and Theology* REP 1982
- Tillich, Paul *Dynamics of Faith* Harper 1958
- Tillich, Paul Two Types of Philosophy of Religion  
*Theology of Culture* OUP 1959
- Torrance, Thomas F. *Theological Science* OUP 1969
- Torrance, Thomas F. *Space, Time and Incarnation* OUP 1969
- Torrance, Thomas F. *God and Rationality* OUP 1971
- Torrance, Thomas F. The Integration of Form in Natural and Theological Science  
*Science, Medicine and Man* 1, 1973, p.145-172
- Torrance, Thomas F. (ed) *Belief in Science and in the Christian Life: The Relevance  
of Michael Polanyi's Thought for Christian Faith and Life*  
Edinburgh: Handsel Press, 1980
- Torrance, Thomas F. *The Ground and Grammar of Theology*  
Belfast: Christian Journals Ltd, 1980
- Torrance, Thomas F. *The Mediation of Christ* Exeter: Paternoster Press, 1983
- Toulmin, Stephen E. *Knowing and Acting: An Invitation to Philosophy*  
Macmillan 1976
- Tournier, Paul *The Meaning of Persons* Harper 1973
- Tournier, Paul *The Strong and the Weak* RKP 1963
- Tracy, David *Blessed Rage for Order* Seabury 1975
- Trigg, Roger *Reason and Commitment* CUP 1973

## BIBLIOGRAPHY

- Troeltsch, Ernst *The Absoluteness of Christianity* SCM 1972
- Troeltsch, Ernst Historiography  
*Encyclopedia of Religion and Ethics*, ed,J.Hastings  
vol 6, Clark 1913
- Tulving, Endel Episodic and Semantic Memory  
*Organisation of Memory*, ed,E,Tulving and W.Donaldson  
Academic 1972
- Tulving, Endel Encoding Specificity and Retrieval Processes in Episodic  
Thompson, Donald M. Memory *Ps,Rev,80*, 1973, p,352-373
- Tulving, Endel *Elements of Episodic Memory* OUP 1983
- Tversky, Amos Judgement under Uncertainty; Heuristics and Biases  
Kahneman, Daniel *Science 185*, 1964, p,1124-1131
- Tversky, Amos Causal Schemata in Judgements under Uncertainty  
Kahneman, Daniel *Progress in Social Psychology 1*, ed.M.Fishbein Erlbaum 1980
- Valentine, Elizabeth R. *Conceptual Issues in Psychology* GAU 1982
- Vernon, M.D. *The Psychology of Perception* Penguin 1962
- Von Rad, Gerhard *Genesis* Revd,ed,SCM 1972
- Vygotsky, L.S. *Thought and Language* M.I.T.Press, 1962
- Vygotsky, L.S. *Mind in Society;The Development of Higher Psychological  
Processes* Harvard 1978
- Weber, Max *The Theory of Social and Economic Organisation*  
New York; OUP 1947
- Weber, Max *The Interpretation of Social Reality*  
London; Michael Joseph, 1970
- Weldon, David E. Effects of Attitudinal, Cognitive and Situational Variables  
Malpass, Roy S. on Recall of Biassed Communications  
*J,Pers,Soc,Ps,40*, 1981, p,29-42
- Wertsch, James V. From Social Interaction to Higher Psychological Processes; A  
Clarification and Application of Vygotsky's Theory  
*Human Development 22*, 1979, p,1-22
- Westerhoff, John H.III *Generation to Generation*  
Neville, Gwen Kennedy 2nd,ed. New York: Pilgrim Press, 1979
- Westerhoff, John H.III *Will Our Children Have Faith?* Seabury 1976
- Westerhoff, John H.III (ed) *Who are We? The Quest for a Religious Education* REP 1978

## BIBLIOGRAPHY

- Westerhoff, John H.III *Inner Growth/Outer Change: An Educational Guide to Church Renewal* Seabury 1979
- Westerhoff, John H.III *A Faithful Church* Wilton, Conn.: Moorhouse Barlow Co, 1981  
Edwards, D.C.Jr.
- Westerhoff, John H.III *Christian Education; Kerygma v, Didache Christianity, Society and Education*, ed, J, Ferguson SPCK 1981
- Westerhoff, John H.III *The Church and the Family* *Rel, Ed, 78*, 1983, p, 249-274
- Westerhoff, John H.III *Building God's People in a Materialistic Society* Seabury 1983
- Whitney, G.T.  
Bowers, D.F. *The Heritage of Kant* Princeton University Press, 1939
- Wilcox, Mary *Developmental Journey* Abingdon 1978
- Williams, Forest *Philosophical Anthropology and the Critique of Aesthetic Judgement* *Kant-Studien*, 1954-5, p, 172-188
- Wilson, Bryan (ed) *Rationality* Blackwell 1970
- Winch, Peter *The Idea of a Social Science and its Relation to Philosophy* RKP 1958
- Wisdom, John *Other Minds* 2nd, ed, Blackwell 1965
- Wisdom, John *Philosophy and Psychoanalysis* Blackwell 1953
- Wisdom, John *Paradox and Discovery* Blackwell 1965
- Wittgenstein, Ludwig *Tractatus Logico-Philosophicus* RKP 1974
- Wittgenstein, Ludwig *A Note on Logical Form* *PAS Supp, Vol, 9*, 1929, p, 162-171
- Wittgenstein, Ludwig *Philosophical Investigations* 2nd, ed, Blackwell 1958
- Wittgenstein, Ludwig *Blue and Brown Books* 2nd, ed, Blackwell 1978
- Wyckoff, D.Campbell *Religious Education as a Discipline*  
*Rel, Ed, 62*, 1967, p, 387-394  
*Who are We?* ed, Westerhoff, p, 165-180
- Wrong, Dennis *Max Weber* Englewood Cliffs, N.J.: Prentice-Hall, 1970
- Zajonc, R.B. *Feeling and Thinking* *Am, Ps, 35*, 1980, p, 151-175
- Zizioulas, John D. *Being as Communion* DLT 1985

INDEX OF NAMES

Abraham, William J.	221	De Mey, Marc	51-52,69,204,226,265
Allport, Gordon	102,137-138,166,221	Descartes, Rene	18,49,252,254
Aquinas, St.Thomas	175	Dewey, John	107
Ayer, Alfred J.	49-50,164,250	Dilthey, Wilhelm	26,37,146
		Dodd, C.H.	200
		Downing, F.Gerald	219
Baillie, John	176-177	Dunn, James	159,168
Bandura, Albert	221	Durkheim, Emil	26
Barber, Paul	240		
Barbour, Ian	245	Ecker, Richard	131-132
Barth, Karl	41,42-44,142-143,156-157	Einstein, Albert	18,20,108,235
Bartlett, Sir Frederic	53-54,60-61, 73-74,84,85,103-104,226,233,238,240	Erikson, Erik	120-124,148,179,221
Basil of Caesarea	166	Ewing, A.C.	110
Berkeley, George	49		
Bigge, Maurice	265	Farley, Edward	195
Boden, Margaret	70	Festinger, Leon	98-101,135-136
Boethius	167	Fitter, Michael	97
Bonhoeffer, Dietrich	174,216	Fowler, James	15,177-179,217-218
Braithwaite, R.B.	219	Freud, Sigmund	121,135
Bruner, Jerome S.	55-56,59-61 116,225,226,233,249,265,266	Galileo	18
Brunner, Emil	11,31-32,33,40, 42-43,156-157,164,180,207,259	Genesis	141-143,145-146,155,162
		Gibson, Eleanor	253
		Gibson, James J.	253
		Gregory Nazianzus	166
Caird, George B.	187-189	Groome, Thomas	15,
Calvin, Jean	30,182,206-207		
Chase, William G.	54	Hacking, Ian	36,245
Cherry, E.C.	96	Hamlyn, D.W.	68,230
Coleridge, Samuel Taylor	70,285	Hampshire, Stuart	67,165,249
Colson, Charles	169	Hanson, Norwood Russell	18,211,237
Compte, Auguste	37	Hardy, Daniel W.	237
Congar, Yves-Marie	158,159,186,222	Hartley, David	162
Craik, Kenneth	7	Hartshorne, Charles	181

INDEX

Head, Sir Henry	60,73,238	Legge, David	240
Hebrews, letter to	189	Leibniz, Gottfried Wilhelm	242
Hendry, George	159,160	Lenin, Vladimir Illich	27
Heron, Alasdair	174	Lessing, Georg Friedrich	215
Hirst, Paul	6,7,46,230	Lewis, H.D.	250
Hobbes, Thomas	23,162	Lightfoot, J.B.	188-189
Howe, Michael	37	Locke, John	49,242
Hughes, Martin	115-116	Loder, James	107-108
Hull, John	104,135,224	Lossky., Vladimir	222
Hume, David	18,24,48, 49,57,136,162,176,180,266	Loyola, Ignatius	119
Isaiah, book of	151,158	Mach, Ernst	18
Jacobi, F.H.	243	Macnamara, John	116
James, letter of	161	Mark, gospel of	195
James, William	147	Marx, Karl	27
Jeremiah, book of	151	Masterman, Margaret	36,245
Jenkins, David	141	McGuire, William	102
John the Baptist	197	Mead, George Herbert	127,130, 136,221,226,252-254
John, gospel of	189,195,196	Melchert, Charles	14
Joel, book of	158	Michalson, Gordon E.Jr.	215
Jung, Karl	148	Mill, John Stuart	24,37,145,240
Kant, Immanuel	24-25,32,39,87,164-165 229-234,235,238-239,242,250,252,255,258	Miller, Donald E.	9
Kekule, Friedrich August	108	Miller, Frederick D.	95
Kelsey, David	151,205-206,260-261	Miller, Randolph Crump	9,39,217
Kerr, Fergus	269	Minsky, Marvin	84-86
Kolnai, Aurel	148,149,165	Mischel, Walter	221
Korner, Stephen	233,268	Moray, Neville	96-97
Kuhn, Thomas	19-21,35-36,37,69,80-83, 84,88-89,211,235,237-239,245	Moule, Charles	185,258
Lakatos, Imre	21,36-37,244-245	Newbigin, Lesslie	159
Lee, James Michael	39,217	Neisser, Ulric	51,57,60,225,265
		Newton, Sir Isaac	18,21
		Niebuhr, H.Richard	181,195,216,221
		Niebuhr, Reinhold	40,153,155

INDEX

Odom, Richard	92-93,228	Schrodinger, Erwin	108
Orteza y Miranda, Evelina	14	Schutz, Alfred	25
		Schweitzer, Albert	200
Pannenberg, Wolfhart	163-164	Searle, John	106
Parkes, Colin Murray	132	Segundo, Juan Luis	220-221
Pascal, Blaise	216	Seymour, Jack	9
Paul, letters of	151,158,159, 160-161,186,187-190,197,200-201	Simon, Herbert A.	54
Piaget, Jean	107,114-117,134,221,225	Smith, Eliot R.	95
Plato	236	Sponheim, Paul	181,211
Poincare, Jules	108	Strawson, P.F.	230
Polanyi, Michael	30-31,37,40,74-76, 91,108,235-239,244-245,259	Swinburne, Richard	71
Popper, Sir Karl	20,36,230	Taylor, Charles	27,37,162
Postman, Leo	55-56,226	Tillich, Paul	181
Price, H.H.	49	Torrance, Thomas F.	143
Pylyshyn, Zenon	39,234	Toulmin, Stephen	18,47,178,211,230,231
		Tournier, Paul	43,148
Quine, W.V.O.	47,65,145	Troeltsch, Ernst	214
		Vygotsky, Lev Semyonovich	117,221
Ramsey, Ian T.	147	Weber, Max	26,226,253
Richard of St.Victor	167	Wertsch, James V.	117-118,221,266
Rosch, Eleanor	82-83	Westerhoff, John H,III	8,14,39,218-219
Ryle, Gilbert	50,147	Wisdom, John	134
Sartre, Jean-Paul	137	Wittgenstein, Ludwig	35,65-67,69 205-206,221,231,247,252-254,265-266
Schleiermacher, Friedrich	41-42, 150,162,214,220,255-257,269	Winch, Peter	38,247
Schlenker, Barry	221	Wyckoff, D.Campbell	11,14

