

TRUTH AS ANTICIPATION:
MOLTMANN AND POPPER ON THE CONCEPT OF
OPENNESS

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DECLARATION

I declare that the contents of this thesis are original except where due references have been made. It has not been submitted before for any degree to any other institution.

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DEDICATION

To Rev Fr. Fergus Barrett OFM for his concern and promotion of Catholic Higher Education in Southern Africa.

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ABSTRACT

Theology and science need dialogue since they are interdependent areas of human experience and enquiry. Each discipline needs to be open to the discoveries and insights of the other. Mutual agreement on fundamental issues is not a point of departure; we must rather ask whether what one discipline is doing can have any relevance for the pursuits of the other?

The theologian, Jürgen Moltmann, and the philosopher of science, Sir Karl Popper, find in “openness” a common methodology. By openness they mean that present realities are partial; that truth lies ahead anticipated within systems that “complexify” in evolutionary openness and transcendence.

Moltmann sees the fullness of truth unveiled in the *eschaton*. The Resurrection of Jesus is the anticipation in time of the *eschaton* towards which history is moving. Within history, creative acts open up the closed systems of the world for they transform present reality. These closed systems are revealed by the Cross which identifies the negatives (political oppression, economic inequality, cultural and sexual discrimination, ecological abuse, personal apathy) within history. In the “negation of the negatives” such creative acts are real anticipations of the *eschaton*.

However, the roots of openness in the world lie in creation. Creation in the beginning is a creation with open possibilities involving the evolution of complex open systems marked by growing indeterminacy of behaviour. These systems are in communication with the transcendent future into which they are evolving. This transcendent future is the trinitarian God: open to creation, to history and to man in suffering but creative love. The inner-

trinitarian life is identified with worldly processes through the openness of the Cross. The completion of the creative process lies in the kingdom of glory. Here there is participation of transcendent creation in the unlimited freedom of God.

Evolutionary openness is the overall Popperian methodology. It pervades the entire spectrum of Popper's thought: from physics, through epistemology and social theory to biological and evolutionary theory.

Critical rationalism is the bedrock of Popper's thought. The search for certainty becomes the enemy of truth, since rationalism rejects any dogmatism. Rather, rationalism means open critical discussion and experiential learning. For this reason Popper rejects induction and replaces it by the logico-deductive method. Here justification is replaced by falsification: knowledge is conjectural, constantly threatened by refutation and progressing to problems of increasing depth and complexity and hence to greater truth-likeness. Even animal evolution begins with a problem – the problem of survival.

Human evolution, however, develops outside the human person. It is applied knowledge. With the development of human language, the self-conscious mind (World 2) emerges and with it the autonomous world of the products of the human mind, World 3. (World 1 is the physical world of nature). In these later developments something new emerges which can interact with the lower levels by a process of downward causation. A picture emerges of a creative, expanding, evolving, indeterminate universe. Indeterminism, itself, lies somewhere between perfect chance and perfect determinism. Lastly in his rejection of holism, historicism and utopianism, Popper has eschewed the collective and replaced the responsible individual at the social centre of his openness. The struggle for rational openness needs the individual response, the individual initiative and mutual critical discussion. This means that piecemeal social engineering is the practical model for the reform of the open evolutionary society.

Moltmann and Popper both envisage an evolutionary struggle towards truth: truth is but anticipation. The growth of truth leads to increased complexity, greater openness and eventual transcendence. These insights may, indeed, aid the dialogue between theology and science.

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CHAPTER ONE

INTRODUCTION

What do the German theologian, Jürgen Moltmann, and the contemporary maverick Austrian-born British philosopher, Karl Popper, have in common? The former is the generally recognized “Father” of liberation theology and the latter the debunker of the hallowed “verification principle” of the scientific method. Each has travelled far from the genesis of his work. Moltmann’s *Theology of Hope* (1977) has led to *The Trinity and the Kingdom of God* and to his pneumatological doctrine of creation, *God in Creation*. After Popper’s initial *Logic of Scientific Discovery* (1934) diversification into the realm of Darwinian evolution led to *The Open Universe* and *The Self and its Brain*.

We believe that a thorough investigation of “openness” as *the* criterion of truth, both theological and scientific, will assist the dialogue between theology and science which is still in its infancy. Moltmann’s God’s promise, open Trinity, open Church and open systems run parallel to some extent to Popper’s open society, open universe and evolutionary epistemology. It is proposed that all reality, including the Godhead in a specialized sense, is process and change, that is, “experiment”, “trial and error” and “gradual modification” acting in “interrelated and interdependent open systems”.

Contemporary theology, faced with the problem of massive global suffering, has been actively aware of the theological implications of political and liberation movements. It has consequently highlighted the liberating doctrine of redemption at the expense of the complementary doctrine of creation. Theologians like Moltmann would insist that human salvation cannot be divorced from the material universe. Furthermore some

features of the natural world such as cosmological, biological and social evolution have been so well established that theology needs to take them into account.¹

The developing dialogue with science becomes more feasible as science has over the last generation moved away from a simple mechanistic view of the world. Quantum physics and the discovery of the subatomic world have led some scientists to question how accurately science can know reality.² Consequently many contemporary scientists are more modest in the truth-claims that they make about the physical world.³ Consequently they have begun to listen with greater respect to the truth-claims of other disciplines, even theology.

Popper has been a pioneer. He insists that no scientific theory may ever be positively verified ("verification principle"), it may only be shown by experimentation to be false ("falsification principle"). Thus there is no absolute certainty in any scientific theory, but only a gradual approximation to truth: in criticising competing theories a steady approach is made towards objective truth.⁴

Impetus for a continuing dialogue between theology and science was provided by Pope John Paul II in June 1988. He insisted that the

...vitality and significance of theology for humanity will in a profound way be reflected in its ability to incorporate these [scientific] findings....The matter is urgent. Contemporary developments in science challenge theology far more deeply than did the introduction of Aristotle into Western Europe in the thirteenth century....Christians will inevitably assimilate the prevailing ideas about the world and today these are deeply shaped by science. The only question is whether they will do this critically or unreflectively, with depth and nuance or with a shallowness that debases the Gospel and leaves us ashamed before history.⁵

Earlier in the same speech the Pope had asserted that theology and science are interdependent, and that collaborative interaction is required, for

Science can purify religion from error and superstition; religion can purify science from idolatry and false absolutism. Each can draw the other into a wider world in which both can flourish [so as to establish]

... a relational unity between science and religion ... [in which, without identity or assimilation, each may be] radically open to the discoveries and insights of the other.⁶

While it is indeed true that the epistemology of theology differs from that of science, a common sociology of knowledge does, nevertheless, arise from the dynamics of history and culture. For this reason the following thesis is presented.

It is our contention that evolutionary openness is *the* epistemological method. All is provisional, imperfect, yet straining through the complexity of interconnected openness to a self-transcendence where the vestiges of an objective truth, both theological and scientific, lie. The truth lies ahead in "complexifying openness". This then is Moltmann's and Popper's common methodology: openness that is dogmatically eschatological and scientifically provisional.

Chapter Two outlines Moltmann's overall theology: eschatology, Cross, Trinity, creation, history, man, politics, and Church and State. This treatment prepares the ground for an investigation of his comprehensive method.

In the third chapter "openness" is proposed as Moltmann's theological method. It will be shown that openness pervades his eschatology, theodicy, doctrine of the trinitarian God and creation, extending finally into his anthropology in historical, political and church life. All lies open in the promise of God's future.

Chapter Four analyses Popper's philosophy of science. This chapter discusses critical rationalism as Popper's basic scientific method; opposes "falsification" to the orthodox scientific method, "induction"; outlines Popper's distinctive logico-deductive method and its epistemological implications; proposes that objective knowledge is nevertheless possible within a never-ending evolutionary development; situates the products of the human mind in a Neo-Platonic World 3; espouses body-mind interaction and finally opts for a form of indeterminism in an intrinsically open universe.

Chapter Five likewise addresses Popperian issues: here his social and political theories. This chapter, too, proposes critical rationalism as the genesis of Popper's intellectual life; critically outlines Popper's famous attack on Plato; exposes the two other enemies of the "open society", Hegel and Marx; attacks historicism and its laws of historical prediction; and finally proposes the open and democratic society as the preferred societal model for scientific and social advancement.

In Chapter Six Popper's overall method is proposed as evolutionary openness. This chapter first explains the meaning of "openness" in Popper's thought and then uncovers the roots of openness in critical rationalism, the logico-deductive method, Darwinian natural selection, indeterminism and individualism.

Chapter Seven, "Openness and the Possibility of Truth", seeks a basis of comparison for Moltmann's and Popper's uses of "openness". The chapter begins with some discussion of the relationship between theological and scientific truth with "complexity" a major issue; thereafter Moltmann's and Popper's differing approaches to transcendence are analyzed; this is followed by an analysis of the core, "open systems"; finally the sociological counterpart, the "open society", is appraised.

Chapter Eight will give special attention to "openness" as used by Moltmann and Popper as the basic methodological principle to aid theological and scientific dialogue.

This study will draw from all Moltmann's and Popper's original sources as well as from various commentaries on their works. These commentaries, together with journals, will aid in the interpretation and specific understanding of their works.

FOOTNOTES

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- 1 This thesis is concerned with the intellectual and the spiritual rather than the physical. Whereas the constraints of the second law of thermodynamics affect the expansion of physical systems we assume that this law does not apply to the intellectual and spiritual realms.
- 2 As examples see:
- Barbour, A, *Religion in an Age of Science*, Barbour, I (ed), *Science and Religion*, Ferris, T, *Coming of Age in the Milky Way*, Gilkey, L, "Nature, Reality and the Sacred: A Meditation in Science and Religion", *Zygon*, Griffin, D.R, *The Reenchantment of Science*, Whitehead, A.N, *Religion in the Making*.
- 3 "Recognition that science has discovered a wide range of truth is compatible with the conviction that a wide range of truths it has *not* discovered exists, and that its formulation of the truth it *has* discovered is one-sided, presenting only abstractions from the full truth." (Griffin, D.R, *The Reenchantment of Science*.)
- 4 A full exposition of this will be outlined in Chapter 4. However, the main outlines of this theory will be found in *The Logic of Scientific Discovery* and *Conjectures and Refutations*.
- 5 *Origins*, 18/23 (1988), pp. 375-378.
- 6 *Ibid.*

CHAPTER TWO

MOLTMANN'S THEOLOGICAL PERSPECTIVES

Jürgen Moltmann's work is situated in the context of a revival of theological interest in eschatological and apocalyptic themes in the nineteen sixties.¹ Moltmann himself first came into international prominence as a result of his work *Theology of Hope* which first appeared in 1964. This seminal work, complemented by *The Crucified God* and *The Church in the Power of the Spirit*, seeks to make Christian revelation intelligible within the context of modern man's framework of thought; yet, without distorting the uniqueness of the Christian message.

M. D. Meeks in his *Origin of the Theology of Hope* contends that Moltmann's *Theology of Hope* reflects the influence of both Karl Barth and Ernst Bloch.² From Barth he gained the concept of the "wholly otherness" of God. God's self-disclosure in the Word is an "eternal event"³. This means that God is totally transcendent in that His being has its own time and history of revelation.⁴ On the other hand, Moltmann learnt from Bloch's left-wing Hegelianism that hope could not be reduced to inwardness and self-transcendence. Transcendence is not above us or within us. Rather, it is conceived in the future before us. Bloch expresses the concept thus: "The forward-look has replaced the upward-look"⁵. Human existence finds meaning in the future state of humanity and the world. This hope arises from the confidence that there will be a new life or *novum ultimum*⁶. Bloch, a Marxist atheist, is indebted to the apocalyptic aspects of the Judeo-Christian tradition⁷ but without the belief in a transcendent personal God.

Thus the *novum* arises from the “not-yet” of the world that is open-ended towards the future. Carl E. Braaten expresses the concept as follows:

Bloch has taught us to understand anew the overwhelming power of the still open future and of hope which anticipates that future, for the life and thought of Man as well as for the ontological quality of all reality.⁸

In view of the above influences, Moltmann’s *Theology of Hope* opens man’s hope to the world processes by a positive transformation of man’s total reality.⁹ Moltmann expresses the concept thus:

Everything real goes beyond its processual front into the possible ... only the real-possible (Real-Magliche) provides the Utopian imagination of man without its concrete correlative.¹⁰

The objective possibilities combined with the world-transforming aspect of Christian eschatology makes tangible the “world-overcoming hope of Christianity”¹¹. Attention will now focus specifically on Moltmann’s contention that: “There is therefore only one real problem of Christian theology, which its object forces upon us and which in turn forces on mankind and on human thought: the problem of the future.”¹²

2.1. ESCHATOLOGY

Bloch distinguishes the Bible from other religious books. The Bible sees its origin not in a primordial golden age which bears sacred repetition but, rather, in a story with a beginning and an end. However, it is primarily a story whose end is increasingly seen in its beginning.¹³ For Moltmann, however, the basis for this hope does not arise from the processes of the world nor from the transcendence of history¹⁴ but in the promise of the coming of God. This God has been incarnated both in the history of Israel and in the promissory history of Jesus of Nazareth.¹⁵

The history of revelation of Jahweh in the Old Testament is directed “... away from the appearances in which [the promise] is uttered into the as yet unrealised future which it [the promise] announces.”¹⁶ Thus, when Israel entered the promised land, she

recognized her new life in Canaan as a fulfilment of the promise. This promise had been given to the Israelites in the wilderness and caused their fathers to journey to this promised land. After Israel had settled in the promised land she continued to live, in spite of continual temptation to do otherwise, in terms of the God of the Exodus. He was the God of the covenant who was guiding His people into a future that He had promised them. Even the experience of judgement upon Israel at the time of the collapse of the two kingdoms (which meant the annihilation of all the assurances of her previous history and the covenant with God) was not seen by the prophets as the annihilation of God's faithfulness to His people.¹⁷ Indeed, Yahweh's judgment served to strengthen the prophets' conviction that out of the future would come an unheard-of new salvation.¹⁸ A new covenant would arise. This covenant would bring salvation not only to Israel but to all nations involved in the history of Yahweh's relationship with Israel.¹⁹

Thus, for Moltmann, hope is a power that is aroused in man in the light of his faith in God's promises of a definite future existence for man. Hope mediates the future to the present reality. In this way it releases man from the claim of the present. It makes it possible for him to share even now in the light and freedom of the coming kingdom. Yahweh is, above all, the coming God.

In the words of Moltmann,

The future is, therefore, not a dimension of his eternity, but is his own movement in which he comes to us. This gives the future of God a pre-eminence over his past and his present in history. His action in history in the past and the present are aimed at this coming and attain their significance from his future. Who God in Himself is will be revealed then. We know about God here only in an historically provisional way.²⁰

As noted earlier, the essential problem in Christian theology is the problem of the future. God is not the "eternal present"²¹, but reveals Himself in the form of promise.²² Thus in the appearing of Yahweh and the uttering of the word of promise

there is no religious sanctioning of the present, but a breaking from the present towards the future. God reveals himself by proving His faithfulness. In fact the essential predicate of God is the fulfilment of His promises.²³

Moltmann understands the resurrection of Jesus as *the* event in which the New Testament witnesses saw the certainty of the future fulfilment of the promises of God.²⁴ The resurrection cannot be verified as historical event. It is not an historically observable event; rather, it is an eschatological *novum*.²⁵ In Moltmann's words, the resurrection of Jesus means "... that He has been received into the future of the 'kingdom of heaven' and the coming glory of God ... Jesus Himself has been translated into the future of the new"²⁶. Put differently, the resurrection did not bring the fullest realisation of the promise; rather, it becomes the guarantee of the future God intended for his whole creation.²⁷

Moltmann expresses himself thus:

... the full redeeming mode of man is present, and is only present, in history in the helpless power of the crucified Christ who was raised. Christ is the anticipation of the coming God, and of the transformation and redemption of the world that will come with him, together with the humanity of the new man contained in that transformation.²⁸

The Christian faith is essentially eschatological and it is grounded in the occurrence of an "historical event", the raising of Jesus.

Faith therefore lives from the promise of the fullness of that event. The Resurrection of Jesus makes the fulfilment of God's promises certain.²⁹ Therefore the raising of Jesus is to be understood in the way of promise. It is thus the eschatological authentication of God's promise and the dawning of its fulfilment. The content of the promise of the future of Yahweh reaches staggering proportions in the Christ event. It is seen as directed towards the universal community of mankind and involves the annihilation of all the contrary and negative aspects of life such as sin, death and the law.³⁰

For the above reasons then, the future realized in the *parousia* is a real future which is a new creation (*novum*). This means that it is not the return of someone who has departed but the imminent arrival of something new.³¹ It is not totally separate from the reality we now experience. Rather it works *upon* this reality by awakening hope and establishing resistance to the present. In this way it breaks away from the past towards the things that are to come. Therefore the *eschaton* is not merely unveiling but also final fulfilment (*adventus*).

In *The Future of Creation* Moltmann addresses the question of whether the present determines the future, or the future the present. He asks, "Is the future theologically the 'revelation' of the present [apocalypse] or is the present the realized anticipation of the future [fulfilment]?"³² He dismisses Barth's eschatology, for there "nothing new" is revealed, only the revelation of what "has already been completed".³³ As a correction he cites Paul, who would have Christians participate now in the cross of the present sustained by the promise of what will be. Moltmann says, speaking of Paul:

... he moved statements about the universal lordship of Jesus not only into present hiddenness, but out of the perfect and present into the future (1 Cor 15:28) and consequently did not bestow the title of cosmocrator on Jesus.³⁴

Rather, Moltman sees that the "end of history" is not its "completion and revelation but its key".³⁵ The future does not emerge from the present; rather, the present becomes "... the anticipation, the prolepsis, the sending ahead of God's future..."³⁶ In this life, justification and reconciliation are the beginnings of the transformation of the present age into the divine righteousness of the last day.³⁷ The justified man already lives in the new creation, but he suffers the "old" as a contradiction of what will be.³⁸

Moltmann rejects eschatological extrapolation which would see the future as already given in Christ. Rather he insists that the *eschaton* is now hidden within the present. The *eschaton* is a "beginning" that strives to complete itself.³⁹ However, not all experiences of the present may be regarded as eschatological statements; they are only

eschatological to the degree that they herald the eschatological promise. Moltmann expresses it thus: "In so far, therefore, as the eschatological future has entered into our historical present, the present becomes the foundation of our knowledge about the future".⁴⁰

In summary it may be said that Christian eschatology does not report future history. It is not an extrapolation of the future from within history. Rather, it formulates an anticipation of history's future from within the midst of history.⁴¹ The basis of historical eschatology, then, lies in the eschatological history of Jesus Christ. Christ risen is the beginning of the eschatological end.⁴²

2.2. CROSS

The Resurrection of Christ is the pledge of the universal future. It is a *nova creatio*, the herald of the future kingdom. As such it is the antithesis or contradiction of a God-less and God-forsaken world; therefore, the as yet unrealized future of a promise is contradicted by given reality. The spirit of the risen Christ as promised transforms the negative, contradictory aspects of the world.

Can mankind hope without the acceptance of the reality of suffering? Can Christ be risen without the suffering and death of the Cross? In fact there is no true theology of hope which is not first of all a theology of the Cross.⁴³ Suffering and hope are held in creative tension. Both are aspects of Christian eschatology; hope relates to the future and suffering to the present. Each is contained within the other.

For Moltmann, Christianity is, at root, faith in the crucified Jesus Who is "... the foundation and measure of Christian theology as a whole"⁴⁴. It is through an understanding of the passion of Christ that God is known. Moltmann acknowledges Karl Barth's comment that: "... the Crucified Jesus is the 'image of the invisible

God'".⁴⁵ He expresses these sentiments in the following words: "When the crucified Jesus is called the 'image of the invisible God', the meaning is that *this* is God, and God is like *this*".⁴⁶

For Moltmann, then, the crucified Jesus, far from being interpreted merely soteriologically, becomes a statement about God himself. This has a staggering implication which he expresses in these words: "...but if the death of Jesus is supposed to be first a statement about God before it is an assurance of salvation addressed to men, does this not mean 'a revolution in our concept of God' ...?"⁴⁷

Consequently, Moltmann is led to reject both theism (God as an all-powerful, perfect and infinite being) and atheism for both begin with the pre-supposition that God and man are fundamentally one being. He comments: "Therefore what is ascribed to God must be taken from man and what is ascribed to man must be taken from God".⁴⁸ Thus Moltmann feels that the God conceived by theism has removed man from his humanity. He makes man appear helpless, imperfect and finite. Conversely, atheism has raised fallible humanity to a level of perfection and consequent dehumanization.⁴⁹

However, in Jesus' suffering, humans can have solidarity in God. Moltmann expresses this truth in these words: "... suffering is overcome by suffering, and wounds are healed by wounds".⁵⁰ Expressed eschatologically, "Taking part in Christ's visible suffering in the world, the believer shares in Christ's invisible glory".⁵¹ A God Who suffers, a God of pathos, is affected by human suffering in history since He is interested in His creation. In contradistinction, a Godhead Who is perfect needs nothing for pure causality cannot suffer. Without emotions He is *apatheia* (unchangeable).

Moltmann feels that the pathos of God, although only an aspect of His being, expresses the relationship of God to His people. This notion was inspired by Rabbi Abraham

Heshel.⁵² Moltmann writes of the pathos of God:

In his pathos the Almighty emerges from himself and enters into the destiny of the chosen people. In his passion he shifts his *esse* into an *inter-est* through his covenant with his people. Consequently he himself is affected by the actions and passion of his people.... He takes the people of his love seriously to the point of suffering under their action and of being capable of being hurt by their disobedience...⁵³

What are the implications for man of his "new" concept of God? If God is *apathetic*, man becomes *homo apathetikos*; if God is divine pathos, man becomes *homo sympathetikos*⁵⁴. It is evident that man's view of God affects man's view of man. The consequences of this equation for mankind and history will be explored in a later section of this chapter.

God enters *par excellence* into the relationship of *pathos* and *sympatheia* in Jesus Christ. This is principally for those unable to satisfy any conditions: sinners, the godless and those forsaken by God.⁵⁵ Moltmann expresses the pathos of God thus:

The God-forsaken Son of God takes the eternal death of the forsaken and damned upon himself in order to become God of the forsaken and brother of the damned. Every person damned and forsaken by God can, in the crucified one, experience community with God. The Incarnate God is present and accessible in the humanity of every man.⁵⁶

Such is the pathos of God that it is not merely vicarious suffering for us. God not only participates in the suffering of humanity in the world, but makes human suffering His own by taking death into His own life. Consequently the death of Jesus was a happening within the Godhead. It is more than "for us".⁵⁷

If God can be described ontologically as "future", as "person" and as "Crucified One", further thought must be given to the doctrine of the Trinity. Christopher Morse expresses the problems as follows:

To speak of a self-differentiation and a self-forsaking within God's "inner-life" in the historical crucifixion of Christ leads us to ask what sense such a conception makes in view of the traditional Christian affirmation that God is triune.⁵⁸

The "event" of the Cross makes nonsense of a simple concept of God; it invites

trinitarian distinctions for it is a “death in God”⁵⁹. The next section focuses on trinitarian differentiation within the unity of the Godhead and links this with the events of salvation history, especially the cross of Jesus.

2.3. TRINITY

Moltmann’s doctrine of the passion of God cannot be understood unless placed within the context of trinitarian thought. Indeed, a biblical doctrine of the Trinity has to begin with the axiom of God’s passion. In *The Crucified God* Moltmann argued that the problem of the Trinity arises when one looks at the cross:

If the cross of Jesus is understood as a divine event, i.e. as an event between Jesus and his God, it is necessary to speak in trinitarian terms of the Son and the Father and the Spirit. In that case the doctrine of the Trinity is no longer an exorbitant and impractical speculation about God, but is nothing other than a shorter version of the passion narrative of Christ...⁶⁰

Thus Moltmann proposes that a doctrine of God be developed “...within earshot of the dying cry of Jesus”⁶¹ for the death of Jesus was a happening within the very Godhead. Jesus died because God His Father abandoned Him. Thus the agony of the Son in His Godforsakenness is also the agony of the Father; it is a “happening” between God and God.⁶² The Father forsakes His own Son and rejects Him. Thus Jesus is the forsaken God. However, the Father suffers the death of the Son in the passion that is His love; but the suffering of the Father is different from the suffering of the Son. Moltmann affirms:

...both Father and Son act and suffer in the surrender; and the Cross brings the Son together with the Father into a complete fellowship of that will which is called love.... On the cross Jesus and his God and Father are divided as deeply as possible through the accursed death; and yet they are most deeply one through their surrender. Out of this happening between the Father and the Son the surrender itself emerges, the Spirit which accepts the forsaken, justifies the godless and makes the dead live.⁶³

Thus in the Cross God forsakes God. In this event he speaks of the “crucified God”⁶⁴ and that “God himself died”.⁶⁵ Moltmann insists that such terminology should not be

taken too literally and later prefers to speak of “death *in* God”⁶⁶. The Father delivers⁶⁷ up the Son; but Jesus consciously and willingly⁶⁸ gave Himself up so that it was “... a path of suffering that He entered upon quite deliberately, a dying that He consciously affirmed”⁶⁹.

Thus there is a basic conformity of will between Father and Son: on the one hand, the Cross divides Jesus and the Father to the point of total separation; on the other hand, in Their mutual surrender or “community of will”⁷⁰ They are totally united. Moltmann expresses the thought in these words,

But this inner unity of Jesus and his God is expressed at the point of their total separation - when God abandons the Son of God on the cross. Because the Crucifixion is both historical abandonment and eschatological surrender, unity in separation and separation in unity are one in the crucifixion.⁷¹

Moltmann has insisted on the trinitarian doctrine of the Cross.⁷² Thus, from what transpires between the Father and the Son on the Cross, the Spirit proceeds. This Spirit is called the “unifying God”⁷³ Who unites Father and Son and, on the other hand, unites the entire creation (including history) with the Son and the Father. In the words of Moltmann,

The Spirit is the *glorifying* God. The Spirit is the *unifying* God. In this respect the Spirit is not an energy proceeding from the Father or from the Son; it is a subject from whose activity the Son and the Father receive their glory and their union, as well as their glorification through the whole creation, and their world as their eternal home.⁷⁴

A fuller exposition of Moltmann’s pneumatology will be given in the next section on creation.

Thus, as a consequence of the “happening” within the Trinity, the being of God opens to man, history and creation for the sake of the crucified Christ.⁷⁵ Moltmann expresses the consequences for history and the world in these words:

World history - creation’s history of suffering and history of hope - is integrated in the trinitarian processes of God and is experienced and formed theologically in the light of this presupposition. To recognize

the crucified God means seeing oneself together with the suffering creation in this history of God.⁷⁶

The Trinity is not a self-contained community in heaven, but becomes an eschatological process open to history and to mankind. Christopher Morse expresses the concept in these words: "... God as a triune process of relationality extending out from the suffering of the Cross through history to incorporate the world and thereby in this Spirit make all things new".⁷⁷

Consequently the distinction between the immanent Trinity (God-in-himself) and the economic Trinity (God-for-us) is not valid. The events of salvation history such as creation, redemption and the liberation of creation through the indwelling of the Spirit and future glorification do not happen *outside* God, in His acts, as it were, but within God Himself, transforming the divine community in Their inner relationships. Moltmann is clearly unhappy with the distinction between "immanent" Trinity and "economic" Trinity for, "... the God Who loves the world does not correspond to the God Who suffices for Himself".⁷⁸

Moltmann does not entirely dismiss the distinction. He wishes, rather, to locate it in doxology.⁷⁹ He will not abstract the Cross from the inner life of the immanent Trinity for it has, as we have seen, played a major role in constituting that life. He states: "The pain of the Cross determines the inner life of the triune God from eternity to eternity."⁸⁰ Indeed, Moltmann grounds the immanent Trinity in the economic Trinity. He says,

Just as the cross of the Son puts its impress on the inner life of the triune God, so the history of the Spirit moulds the inner life of the triune God through the joy of the liberated creation when it is united with God.⁸¹

It would seem that Moltmann aims at a relationship of interaction between the immanent Trinity and the economic Trinity, while preserving their distinction to some degree. Roger Olson expresses the notion in these words,

The economic Trinity not only reveals the immanent Trinity, but also has

a 'retroactive' effect upon it ... All of this means that while God's relationship to the world does not simply correspond with his relationship to himself, it does affect it. The relationship between the inner life of God and his acts in the world history is not one of original *vis-a-vis* copy, not 'Idea', *vis-a-vis* 'appearance', but is a 'mutual relationship'.⁸²

The concept of the openness of the Trinity to creation and history will be developed in later sections of this chapter.

Moltmann's more dynamic doctrine of the Trinity necessitates an investigation of the ancient question: "How is the unity of God to be understood?" The unity of the three divine persons is neither a homogeneous essence of God (*homoousios*) nor a simple absolute subject. In both cases Moltmann sees an ever present danger of abstract monotheism dissolving the trinitarian distinctions into a modalistic unity.⁸³ Moltmann argues that both Rahner and Barth are modalists⁸⁴ and that their strict monotheism will make Christology impossible. Moreover, he finds it impossible to reconcile monotheism with the Crucified God. He says,

The strict notion of One God really makes theological Christology impossible, for the One can *neither be parted nor imparted* ... [thus] Strict monotheism obliges us to think of God without Christ and consequently to think of Christ without God as well.⁸⁵

For these reasons Moltmann proposes to follow the tradition of Eastern Christianity by starting with the threeness of the Godhead and then making the unity the problem. He states:

...the unity of the Trinity cannot be a monadic unity. The unity of the divine tri-unity lies in the *union* of the Father, the Son and the Spirit, not in their numerical unity. It lies in their *fellowship*, not in the identity of a single subject.⁸⁶

As he argues in this way, Moltmann arrives at a social understanding of the doctrine of the Trinity. He believes that his doctrine has so linked the distinctions and unity of the three persons that Their threeness has not been reduced to a unity, nor Their oneness dissolved in the threeness. He explains,

The unity of the triunity lies in the eternal perichoresis of the trinitarian persons. Interpreted perichoretically, the trinitarian persons form their own unity by themselves in the circulation of the divine life. The unity

of the trinitarian life lies in the circulation of the divine life which they fulfil in their relation to one another.⁸⁷

In the above model the Trinity is not a fixed geometrical figure. Rather, the Trinity is an historical process of reciprocal relationships between persons of a divine community. These triune persons both take active initiatives and are acted upon according to Their function in creation, redemption and the new creation.⁸⁸

In terms of the above analysis Moltmann arrives at a doctrine of the Trinity constituted by the history of God's suffering love, open to creation and the world and realized in the kingdom of glory. In the next section Moltmann's doctrine of creation with its strong trinitarian and pneumatological undertones is examined.

2.4. CREATION

In the Preface to *God in Creation: An Ecological Doctrine of God*, Moltmann sees creation as primarily a pneumatological doctrine. He writes, "By the title *God in Creation* I mean God the Holy Spirit. God is the 'Lover of Life' and His Spirit is in all created things".⁸⁹ In eschewing theologies associated with what he calls "monotheism of the absolute subject"⁹⁰, he sees God *in* creation rather than *over* creation. God in creation is strongly pneumatological, for creation

... exists in the Spirit, is modelled by the Son and is created by the Father. It is... from God, through God, and in God... [Such a] trinitarian concept of creation binds together God's transcendence and his immanence.⁹¹

Moltmann sees God as immanent in His creation. This means that His Spirit is the very spirit of the universe, sustaining the initial creation out of His creative energy. Creation is thus not simply a single event occurring in the past but a continuing event right up to the advent of the *eschaton*. It is both a *creatio ex nihilo* and a *creatio continua*.

Attention will be focused first on the Jewish Cabbalistic metaphor of the *zimsum*. This

is God's self-limitation.⁹² This metaphor enables Moltmann to explain *creatio ex nihilo*. God "contracts" or withdraws into Himself in order to go out of Himself. This self-movement of God allows "space" for creation. Put differently, in Moltmann's words, "His creative activity outwards is preceded by this humble divine self-restriction".⁹³ God's self-limitation creates a negativity, for the space which comes into being is God-forsaken space; initial creation is thus *ex nihilo*, that is, without any prior conditions. Moltmann explains:

The space which comes into being [by *zimsum*] ... is a literally God-forsaken space. The *nihil* in which God creates his creation is God-forsaken, hell, absolute death; and it is against the threat of this that he maintains his creation in life.⁹⁴

Creation as *creatio ex nihilo* excludes any necessity or compulsion on God's part. Creation is God's free action. Moltmann clearly recognizes this when he writes,

The later theological interpretation of creation as *creation ex nihilo* is therefore an apt paraphrase of what the Bible means by 'creation'. Wherever and whatever God creates is without any preconditions. *There is no external necessity which occasions his creativity, and no inner compulsion which could determine it.* Nor is there any primordial matter whose potentiality is pre-given to his creative activity, and which would set him material limits.⁹⁵

However, Moltmann proposes an inner-compulsion of love in God's nature. This means that He cannot but will the good, for it is His nature to love. It is this concept of love that enables us to understand His unity of will and nature. Put differently, Moltmann writes,

If we lift the concept of necessity out of the context of compulsive necessity and determination by something external, then in God *necessity* and *freedom* coincide; they are what is for him axiomatic, self-evident. For God it is axiomatic to love, for he cannot deny himself. For God it is axiomatic to love freely, for he is God.⁹⁶

The essence of love is selflessness. God's love is selfless *ad intra* and *ad extra*; therefore He is not free not to create for in His very essence His love is creative. As Moltmann expresses it, "... not to reveal himself and be contented with his untouched glory would be a contradiction of himself...."⁹⁷ In God's creative activity He is entirely Himself. This creative love is sacrificial love, suffering love which is revealed at the

very heart of the Trinity.

The creation of the world as a process must be identified with God's inner-trinitarian life; similarly, the whole world process is the divine essence (cf. Christian panentheism⁹⁸). In the inner-trinitarian relationships the Father loves the only-begotten Son with an engendering love; the Son responds through obedience and surrender. It is a necessary love for it is love of like for like⁹⁹ (cf. free love, the love for one who is different). God's love, however, is not only an engendering love but a creative love. This means God's love is communicated to like and to His other; in other words, He is love in essence and love in freedom. As Moltmann says, "Creation is a part of the eternal love affair between the Father and the Son. It springs from the Father's love for the Son and is redeemed by the answering love of the Son for the Father".¹⁰⁰ Creation, love for God's other, means withdrawal and self-limitation. It is for this reason that creative love is always a suffering love. Moltmann expresses the implications as follows:

The suffering of God with the world, the suffering of God from the world, and the sufferings of God for the world are the highest form of creative love, which desires free fellowship with the world and free response in the world.¹⁰¹

The suffering love is panentheistic. God suffers in, through, and with his creation. His self-limitation or withdrawal for the sake of creation is a partial negation of the divine being, inasmuch as He is not yet Creator. The space He creates is God-forsakenness therefore God-forsakenness, hell and absolute death are a part of God before creation. Historically this sacrificial, creative withdrawal for the sake of creation has its counterpart and fulfilment in redemption.

Moltmann sees the process as follows:

So the resurrection and the kingdom of glory are the fulfilment of the promise which creation itself represents ... by yielding up the Son to the death in God-forsakenness on the cross, and by surrendering him to hell, the eternal God enters into the nothingness out of which he created the world. God enters the 'primordial space' which he himself conceded

through his self-limitation By entering into the God-forsakenness of sin and death (which is nothingness), God overcomes it and makes it part of his eternal life ... The hope of resurrection therefore brings even the nothingness of world history into the light of the new creation...¹⁰²

Creation, then, in the beginning is out of chaos and in this sense it is threatened; moreover, initial creation is a creation in time and is thus subject to change. This means that it is perfectible rather than perfect.¹⁰³ Creation is thus open. Moltmann expresses the notion in this way,

Creation at the beginning establishes the conditions for the possibilities emergent in the history of creation. It defines the experimental area for both constructive and destructive possibilities. It is open to time and to its own alteration within time. We can see in it not the unvarying nature of history but, rather, the beginning of the history of nature. Creation at the beginning is not a balanced or fulfilled reality.¹⁰⁴

Moltmann's understanding of the universe as an open system is essentially eschatological in that it implies that the universe has a transcendent encompassing dimension with which it is in communication and towards whose future it is evolving.¹⁰⁵ The Spirit is the principle of evolution¹⁰⁶: He is the principle of creativity in that He creates new possibilities; He is the holistic principle who creates harmonious interaction and mutual perichoresis; He is the principle of individuation in that He differentiates particulars¹⁰⁷ and finally creation in the Spirit is open towards its intended possibilities.

Moltmann believes that God's Spirit is identical with the cosmic spirit. He writes, "If the cosmic spirit is the Spirit of God, the universe cannot be viewed as a closed system. It ... is open - open for God and for his future".¹⁰⁸ Moreover, if the Spirit "indwells" in creatures, then the Holy Spirit's suffering is the same as the world's suffering:

If God commits himself to his limited creation, and if he himself dwells in it as the 'giver of life', this presupposes a self-limitation and a self-surrender of the Spirit. The history of suffering creation, which is subject to transience, then brings with it a history of suffering by the Spirit who dwells in creation.¹⁰⁹

Moltmann speaks of a "tripartite" concept of creation: *creatio originalis*, *creatio continua* and *creatio nova*.¹¹⁰ *Creatio continua* is a creating in terms of what has already been created; on the one hand God sustains and preserves, on the other hand He

directs creation towards the anticipation of the fullness of salvation. This means that *creatio continua* is at the same time *creatio nova* for, as Moltmann expresses it, "... the unremitting creative activity of God... [is] ... an activity that both preserves and innovates"¹¹¹.

Creatio continua is a history of the suffering of God and of His creation. Creation in the beginning is a system open to both time and possibility; sin and slavery are understood as "... the self-imposed isolation of open systems from their own time and possibilities"¹¹². Indeed, salvation history is God's opening up of the closed systems in creative suffering. Moltmann sees that

The inexhaustible creative power of God in history always makes itself known first of all in the exhaustibility of the power of his suffering. ...the more an open system is able to suffer, the more it is able to learn.... Through his inexhaustible capacity for suffering and the readiness for suffering, God then also creates quite specific chances for liberation from isolation, and quite specific chances for the evolution of the various open life systems.¹¹³

Growth (or evolution) brings suffering, for closed systems resist the suffering that comes from change. This means, therefore, that an acceptance of suffering is involved in the opening up of closed systems entrapped in separation and isolation. Expressed theologically, God's openness for the world begins with the suffering, death and resurrection of Jesus, is made effective in creative change through the outpouring of the Spirit and is completed through the resurrection of the dead.¹¹⁴ This process of creative evolution is, moreover, indeterministic. According to Moltmann,

With the evolution of complex systems, indeterminacy of behaviour grows, because the possibilities increase. The human person and the human social system are the most complex systems known to us. They display the greatest degree of indeterminacy in their behaviour, and the most extensive degree of openness to time and future. But every realization of possibility by open systems creates openness for yet more new possibilities.¹¹⁵

The consummation of the creative process is the kingdom of glory - a new creation where God will be all-in-all. Man, with the whole of creation, is liberated from the slavery to nothingness. All participate in the divine life and the glory of God pervades

all things. This is the eternal Sabbath¹¹⁶ expressed by Moltmann as

...the Sabbath is the completion of creation... but [it] points beyond ... itself to a future in which God's creation and his revelation will be one.... God is thus manifest in the whole creation, and the whole creation is the manifestation and mirror of his glory: that is the redeemed world ... [Thus] ... the messianic Sabbath is the End-time *correspondence* to the original Sabbath of God's creation.¹¹⁷

Is this eternal Sabbath the final conclusion of the universe? No, according to Moltmann, the consummation through the indwelling of God opens up unlimited possibilities,

The indwelling of unlimited possibilities open to God will signify, moreover, the openness *par excellence* of all life-systems and, for that reason, their eternal imparting of life not their rigidity.... [Thus] Instead of a timeless eternity, we should talk, rather, about 'eternal time'; instead of the 'end of history' we should talk rather about the end of pre-history and the beginning of the 'eternal history' of God, man and nature.¹¹⁸

Creation in the beginning is the Godhead's opening of Himself for creation in self-denial, limitation and creative love. Creation at the end is the Godhead gathering redeemed creation into His glory. In the next section these and other theories will be explored in the history of God and His world.

2.5. HISTORY

For Moltmann history is the concrete mode of existence created between the revelation of the promise of God and its fulfilment. It is the movement of man and all creation towards the realization of the *eschaton*.¹¹⁹ It is the promise of God revealed through Israel, guaranteed in time by Christ and ultimately fulfilled in Him.

History in Christ is eschatological and as such strictly linear. This means that it is an irreversible movement towards that which will be. This is in contrast to the so-called epiphany religions. These religions sanction the "present" in order to overcome the threat to human existence posed by the powers of chaos and annihilation.¹²⁰ The very

destructiveness of time is transcended by a periodic return to the first beginnings through religious festivals. For Moltmann history is not understood as origin, or the need to restore the original Golden Age of remembrance. In fact the real category of history is no longer the past but the future. The history of mankind is decided by humanity's future state or, as Moltmann expresses it, "Theology as eschatology tries to understand man, together with the world, historically in view of that future which both will find in the future of God"¹²¹.

It is for this reason that the "promise" of Yahweh never sanctions the present nor a return to the "Golden Age" where the lost perfection is found. Rather, it breaks away from the present and moves towards the future. However, there are partial fulfilments of the promise within history. Moltmann states:

The peculiar character of the Old Testament promises can be seen in the fact that the promises were not liquidated by the history of Israel - neither by disappointment nor by fulfilment - but on the contrary Israel's experience of history gave them a constantly new and wider interpretation.¹²²

The hopes raised in history are always greater than their fulfilment. In this sense history disappoints hope. New conditions require a fresh integration of that hope. The "future" of history is qualitatively different from history and experience at the "present". Yet this qualitative difference between the historical present and the eschatological future should not be overstressed. Such an emphasis would negate the world and its history. On the other hand a correspondence between history and the future can dilute the very transcendence that is the *eschaton*. Every "temporary" fulfilment would in turn seek transcendence, consequently negating the expectation of a wholly different future. Rather, as Moltmann expresses it, "... the future realizes itself in history and as history and yet always rebounds from its own realization in history and becomes again a not-yet-realized future of the whole of being."¹²³ The eschatological future thus renders any historical reality a partial anticipation of the coming fullness. However, the future promise has to be linked to its anticipation in history for, as Moltmann states, "There

will only be a meaningful reconciliation when the transcendence that surpasses history is linked with actual historical transcending..."¹²⁴.

In the Christian faith, history and the future come together in Christ in Whom that qualitatively new future is present under the conditions of history. This means that the end of history is present in the midst of history.¹²⁵ In the Easter event the process of the liberation of the whole of enslaved creation has not only begun; its consummation in the *eschaton* is confidently anticipated.¹²⁶ For this reason the transcendence of Christ is not to be interpreted metaphysically or existentially, but eschatologically. This means, then, that the transcendence experienced in suffering is to be sustained by an active hope.¹²⁷ Eschatological transcendence is allied to the Cross and hence to those whose suffering is unveiled by the Cross, that is, the dispossessed and downtrodden victims of present society. Moltmann declares: "The transcendence of the future of a 'Wholly Other' begins for it dialectically, in the lifting up of those who are 'the others' in a particular present and in particular societies."¹²⁸ The anticipation of the future in the resurrection of Jesus is a sign of hope for a God-forsaken world. In the present dispensation the glory of the "coming one" is seen in the crucified Jesus. A hope in the Cross is a "hope against hope".¹²⁹ It is a negative theology which liberates one from all the idols (mainly political idolatry), false hopes and self justification which militate against the historical anticipation of the coming kingdom.¹³⁰ These theories will be deliberated further in section 2.7.

In the previous section the question of an open or closed creation was briefly raised. Closely allied and dependent upon this is whether history itself is a closed or open system. For Moltmann this is a crucial question indeed, one on which hinges the coherence of his historical eschatology. History is indeed open because the limiting and binding features of sin, death and law have been "broken through" in the death and resurrection of Jesus.¹³¹ It is also "open" because of the fact that the movement of history is unfinished. History is a movement that is really going somewhere, towards

something that has never been before, which exists in the present time only in the form of hope and promise.¹³²

To illustrate further what he means by “open history”, Moltmann contrasts this with “closed history”. In a closed system, history begins with the fall of man and ends with the restoration of creation in redemption. Creation is thus closed and redemption is the way back, a “paradise regained”¹³³. For Moltmann, the Israelite belief in creation developed out of God’s action in the history of His people, through events such as the exodus, the covenant, and the occupation of the promised land. As he expresses it, Israel had a “soteriological understanding of creation”¹³⁴. Moltmann insists that

... [creation] embraces the initial creative activity, creative activity in history, and eschatological consummation. The reduction of the concept of creation to creation in the beginning has led traditionally either to the cleavage between “creation” and “redemption” and between “nature” and “supernature”, or a division between “first and second creation”. But this calls in question the continuity and unity of the divine activity itself.¹³⁵

So, in Moltman’s view, the initial act of creation points towards salvation history. Both initial creation and salvation point towards the *eschaton*. The future determines both creation in the beginning and creative acts in history. Thus creation in the beginning is not perfect but, rather, perfectible for, in history, it is subject to positive and negative forces such as disaster and salvation. Moltmann expresses this thought as follows:¹³⁶ “Creation at the beginning is the creation of conditions for the potentiality of creation’s history... . It is open for time and for its alteration in time.”¹³⁷

Thus hope’s action in history takes the form of a creative transformation of reality; a process in which there is a constant leaving behind of the old and a moving in the direction of what is new. As Moltmann sees it, God’s creative acts in history are related to the “opening up” of closed systems. These systems insulate themselves against the development of their potentialities. Thus sin and slavery are related theologically to salvation and redemption. They are a self-perpetuation of the imperfections of present reality. Moltmann comments on “closed systems” within historical reality:

If a human society settles down to a closed system, seeking to be self-sufficient, then something...happens...for this society; the future ceases to offer scope for possible change; and in this way the society also surrenders its freedom. A society of this kind becomes *societas incurvata in se*.¹³⁸

As we saw in section 2.4, the opening up of closed systems within societies and history cannot come about without suffering. The suffering and death of Christ is the completion of the process of creation; it is *the* eschatological event in that it is God's openness to the world. In history it brings a limited openness of God in history through the life-giving spirit of Christ. The Spirit is operative in those involved in creative acts that involve suffering. Moltmann describes the process in this way: "... salvation [is a] universal opening of closed and isolated men and women [in this] closed world for the fullness of divine life".¹³⁹

The creative process is complete in the *eschaton* in the indwelling of God within the new creation. Here, creation will be free from enslavement to futility¹⁴⁰, and glorified man will be free to enjoy the abundance of the freedom of God. The key concept of "freedom" and "liberation" will be further investigated in sections 2.6 and, especially, 2.7. As noted in the previous section, even the *eschaton* is not a closed system.¹⁴¹ Eternity itself is an open system. The fulfilment of the promise in the *eschaton* begins "eternal history". Thus the openness of creation in history is continued into eternity itself.

It is clear that, for Moltmann, eschatological history must find its origin and its end within the history of God's dealings with man and creation. It has been seen (sections 2.3 and 2.4) how God as Trinity opened Himself in love to creation through the sending of the Son and The Spirit. Thus God, while transcending history, also experiences history.¹⁴² Therefore, rejecting older philosophical categories about the nature of God, Moltmann can say,

God is not unchangeable, if to be unchangeable means that he could not in the freedom of his love open himself to the changeable history with man and creation. God is not incapable of suffering, if it means that in

the freedom of his love he could not be receptive to suffering over the contradiction of man and the self-destruction of his creation. God is not perfectible, if this means that he could not in the freedom of his love want the humanity and creation which he loves to be necessary to his perfection. God is not invulnerable, if that means that he could not open himself to the experience of the cross.¹⁴³

History "changes" God; He is not unaffected by His experience through and with His creation. Moltmann says that the relationship between Father and Son after the return of the Son to the Father is no longer exactly the same, for God has experienced the pain involved in the redemption of the world.¹⁴⁴ He has absorbed the experiences of the cross into His eternal life. Having experienced history God is glorified through man in His new creation by the power of the Holy Spirit. By means of His salvific activity in history, God has experienced suffering, death and even hell itself. Moltmann's meditation *Descent Into Hell* has a two-fold interpretation. First, Christ's descent into hell was the embodiment of His utter Godforsakenness on the Cross. Secondly, it was the beginning of His resurrection on behalf of all. Thus it is both the protest against the hell of suffering evil and the redemption from this hell for all mankind.¹⁴⁵ Hence God's glory is the glorification of the new creation.¹⁴⁶

As seen in section 2.3, the sufferings of God in Himself and creation can be understood through the doctrine of the Trinity centred on the crucified Jesus. Consequently, the salvific mission of God in history finds both its origin and its end in the Trinity. Traditionally the doctrine of the Trinity has been understood as the "sending".¹⁴⁷ Moltmann explains as follows: in history it is the Father who sends the Son, therefore within the life of the Trinity the Father precedes the Son. The Trinity in the "sending" is directly related to the Trinity in its essence. Therefore the Son is begotten by the Father before time began. The experience of the Spirit expresses the liberating and unfolding fellowship of Jesus with the Father who has sent Him. So the action of the Trinity within history shows the superabundant being and love of God. This love is "open" for all eternity to the experience of history through the action of "sending".

Yet, as Moltmann suggests, the history of God in creation has two aspects - protological and eschatological. The "sending" of the Son into the world points to His origin with the Father, whereas the resurrection of Christ points to His future with the Father. However, both these aspects are intimately linked, as Moltmann suggests:

His messianic mission in the world corresponds to his eschatological gathering of the world. His pre-existent origin corresponds to his eschatological future. His becoming man in time corresponds to his being God (theosis) in eternity. His surrender to death on the cross corresponds to his exaltation to the right hand of God. His passion corresponds to his glorification and his descent into hell to the Ascension.... When we relate an historical narration we always begin with the beginning, and ultimately come to the end. But when we think eschatologically we begin with the end and from there arrive at the beginning. Historically we understand an event in the light of its origin and we ask about its beginning, its grounds and its origin. Eschatologically, we understand an event in the light of the future, and ask about its goal, its end and its meaning. The two ways of looking at things do not exclude one another; they are complementary, and belong together if we are to achieve a full understanding of history.¹⁴⁸

In the above quotation it can be seen that a concentration on the "sending" of the Son stresses the event of the incarnation, the passion, and the death on the Cross. Eschatologically considered, however, the resurrection, exaltation and handing over sovereignty to the Father are stressed.

Within eschatological thought, the action of the Holy Spirit is paramount in creation; all activity within history proceeds from the Holy Spirit who, through His action, glorifies the Son and the Father. Protologically, the Father is the active agent in the "sending", the Son and the Holy Spirit being relegated to a more passive role. Eschatologically, however, the Holy Spirit is the active agent in creation. Through His creative and regenerative activity in history, He glorifies both Son and Father.¹⁴⁹

In conclusion, it is evident that Moltmann rejects many aspects of the scientific positivist approach in history where facts alone are evaluated. Historical facts are to be ascertained and evaluated in relation to history. History itself is understood in terms of the direction in which it is moving.¹⁵⁰ For Moltmann,

... history cannot be understood positivistically as a closed area of events which are dated and fixed in a calendar. Nor can history be understood as existential. Rather, history must be seen as the sphere of action of revelation, in which the judicial process of truth takes place.¹⁵¹

Since the *eschaton* has not yet come to be, history is a process of moving towards the realization of truth, its essential being. Truth, then, is primarily something that is becoming realized in history and that will be realized in the future. The truth of history lies ahead. The Christ event is not an occurrence that can be circumscribed within history, rather it is an occurrence that opens up history to a definite future. Therefore the Christ event is essentially a revelation in time and history of the future towards which history itself is directed.

All history has its time ahead of it.¹⁵² The “past” becomes the already anticipated revelation of the future. The “present” becomes the present anticipation of future reality. The future is the oncoming disclosure of the promise of God realized in the *eschaton*. The truth content of present situations is not destroyed by understanding them as anticipations of the future. Rather, truth is made temporary and provisional. Moltmann, sees truth as residing not at the beginning of creation but at the end. History becomes what Moltmann calls a “judicial process of truth”. It is the process of the struggle of history to come to its truth. Thus the whole present situation must be understood in the light of its historical possibilities. This means that it is grasped within the spectrum of the future of truth.¹⁵³

In the next section, Moltmann’s Christian vision of man will be explained and compared to contemporary anthropological views. Here, again, man is grasped within his eschatological open-endedness - the truth of man lies ahead.

2.6. MAN

Man is an unfinished historical being and therefore indefinable. Moltmann states, “The

essence of man is hidden and has not yet appeared. 'Mankind' - the realized generic concept - is becoming, is still in process, has not yet acquired a fixed 'nature'.¹⁵⁴

Man has the task to find out what his nature is. However, Moltmann's anthropology sees man in a reciprocal relationship to God. Thus he says,

It is only in the coming of God himself, who endlessly puts this life in question, that the revelation of the secret of man can be hoped for. For this reason man cannot find himself in any of his images of man, and achieve rest.¹⁵⁵

Scripture thus has no set anthropology but sees man instead only in a restless history of his relationship to God. It could be said that man is only definable in hope. In *Hope and Planning* Moltmann states the position as follows:

Man, who is encountered by God's revelation as promised, is identified and finds himself; at the same time, however, he is differentiated, and goes searching for his true life which is conceded in Christ (Col. 3.3) He finds himself only in hope, for he is not yet excluded from death, he is not yet risen.... He comes into harmony with himself - *in spe* but not *in re*.¹⁵⁶

Moltmann's vision of man is clearly Christocentric. Man is revealed to himself in the Cross so that, "If the whole of man's reality is accepted by God on the cross, then at the same time man's reality is revealed to him in the cross as a reality which is both directed and forsaken by God".¹⁵⁷

The Cross differentiates Christian anthropology from mere ideology and mere humanistic views of man. In the crucified One man recognizes the truth about himself and hence finds his true humanity. He sees himself as un-man.¹⁵⁸ This means that man sees himself in his inhumanity or, as G.C. Chapman writes, "The cross alone takes seriously un-man's perverted interest and misuse of the knowledge of God"¹⁵⁹. Moltmann expresses himself even more trenchantly. In *The Crucified God*, when speaking of man's self-deification, he says

God reveals himself in the contradiction and the protest of Christ's passion to be against all that is exalted and beautiful and good, all that the dehumanized Man seeks for himself and therefore perverts.¹⁶⁰

The cross shows the radicality of sin. All sin is linked to expressions of hopelessness.

Hopelessness assumes two forms which Moltmann outlines in the Introduction to the *Theology of Hope: praesumptio* and *desperatio*.¹⁶¹ As Moltmann defines it, *praesumptio* is "... a premature, self-willed, anticipation of the fulfilment of what we hope for from God".¹⁶² Moltmann sees the self-deification of man as the glaring example of *praesumptio*. In especially strong language he states,

The wretchedness of a modern anthropology built on the basis of an inherited theology lies precisely in its theological and religious inheritances. As total man, as ideal man, as the man of possibilities or the man of decision, man must accomplish things which he cannot accomplish. The divinisation of man makes him not more human, but rather more inhuman. An anthropology which, in the modern post-Christian sense, intends to be the heir of theology, loses sight not only of the real life but also of real man.¹⁶³

Anthropotheism de-humanizes man by requiring achievements which he cannot meet. In section 2.7 an especially pernicious sense of *praesumptio* will be found in political theology. This Moltmann refers to as idolatry. Another form of *praesumptio* is "works-righteousness" where "having" is more important than "being".¹⁶⁴

The second form of hopelessness is *desperatio* which Moltmann defines as "apathy".¹⁶⁵ It is, at bottom, the fear of exposing oneself to risk, to God's creativity, to love. Man flees from authentic human existence. He becomes *incurvatus in se*, the apathetic man. Human life, for Moltmann, needs to be

"... accepted, loved, and experienced ... (so that) where life cannot be accepted, loved and experienced, we are no longer dealing with human life ... being human (*homo esse*) is being interested (*inter-esse*) ... Indifference and apathy can therefore be called "dead life".¹⁶⁶

In essence all sin is hopelessness. Man is estranged both from his true understanding and his destiny: he cannot "be" and he cannot "become". He is "un-man".

In contradistinction to un-man, Jesus is the truly human person in the midst of inhumanity for, as Moltmann says,

The Crucified One personifies the new humanity which is in accordance with God, under the circumstances of inhumanity that contradict God. He personifies homeland under the circumstances of the foreign land,

and freedom in the midst of slavery's bonds. But it is precisely by this that men are vested with the power to alter these conditions, to arrange the world to be more homelike, and to abolish inner and outward slavery.¹⁶⁷

In the image of the Son of Man, Moltmann finds the biblical symbol which represents for him Christ as the vanguard for the coming kingdom, the One who identifies himself with un-man in order to bring him to the fullness of humanity. The Son of Man does not emerge from the morass of human power exemplified by worldly empire; He comes from heaven to effect the eschatological change, to humanize man and bring him into God's justice.¹⁶⁸ In Moltmann's words,

The Son of Man is he who identifies himself with the "un-man", in order to call them "men"... Man is manifested as the being who is accepted and beloved by God, in the manner of Jesus, and also through him God is manifest as this humane God.¹⁶⁹

How then does Moltmann see this new humanity? Perhaps the best summary is provided in *Religion, Revolution and the Future*, viz. the abundant man (material abundance), the upright man (one who honours human dignity), the sovereign man (self-determined, and not by works-righteousness in its various forms) and the purposeful man (who accepts the experiment that is hope).¹⁷⁰ This new humanity is destined to be in Moltmann's words,

... a world which no longer stands over against God in endless disparity but now has God dwelling in it. It thus participates in the boundless creating power of God himself. It is a new humanity which will no longer be only the creation of God or no longer only a child of God but will be "like God" and participate in God's infinite creativity.¹⁷¹

In the present dispensation, man is called to be both God's creature and the image of God. Firstly, this means that as a creature with fellow creatures man is to have oneness and empathy with all God's creation. As Moltmann expresses it,

Neither man nor nature is divine.... Nature is neither numinous nor demonic.... Man is also a creature of God. He is neither a demon, an aberration of nature; nor a demi-God. Man is God's creature; that also means that he stands in solidarity with God's other creatures.¹⁷²

G. C. Chapman sees that man's at-oneness with his fellow creatures has certain ecological consequences. One of these is to overcome the problem of alienation from

the physical body. Categories of “possessing” lead us to speak of “having” a body rather than being a body.¹⁷³

Secondly, as an image of God man is called to represent God in and on behalf of His creatures. As Moltmann sees it, *Imago Dei* means:

... not the essence of creative man, but his vocation or definition: to represent God in his creation.... [Thus] As an individual man and as a whole, man has the vocation to be God's counterpart. At one and the same time, 'man' is a creature like all the rest of creation and the image of God like none other of God's creatures. He *is* a creature; at the same time, he *has* the whole creation as the realm in which he represents God.¹⁷⁴

In this vocation man's eschatological identity is linked with his “not-yet” present. On the one hand, he identifies with creatures; on the other hand, he transcends them. Thus man is not reducible to his present condition for, even now, he enjoys a foretaste of the endless freedom of his eschatological identity. Man thus has a dual identity and is consequently at strife within himself as he reaches towards maturity.¹⁷⁵

In the next section the focus shifts from man as a generic term to man in his social and political context, that is, man for and with others.

2.7. POLITICS

Moltmann's political theology cannot be understood unless section 2.2 (Cross) has been grasped. In its core it is the application of the theology of the Cross to the world. It is the rule of the Crucified Christ in a world enslaved by “vicious circles of death”¹⁷⁶ on the one hand, yet open to the liberating experience of the promise to be revealed and actualized in the *eschaton*. As seen previously, the theology of the Cross leads beyond the apathetic God of theism to the God of pathos; the God Whose being is suffering in love. The consequences of a “Crucified God” for society, history and especially politics are enormous. Moltmann deduces:

If this crucified man has been raised from the dead and exalted to be the Christ of God, then what public opinion holds to be lowliest ... is changed into what is supreme. In that case, the glory of Christ does not shine on the crowns of the mighty, but on the face of the crucified Christ.¹⁷⁷

By "mighty" Moltmann means those whom the world regards as powerful and influential. It is in the Cross, therefore, that the Christian faith distinguishes itself from other religions and theologies and from various forms of idolatry.¹⁷⁸ If the Christian faith is to remain consistent with this identity, it cannot accommodate itself to the vicious political religions of society. The Christian faith in the Crucified One is the power of liberation from these ideologies and idolatries. This liberation happens in two ways: firstly, in forbidding all images of God, the second commandment initiates both a world free from autocracy and a political life freed from political and state idolatry; secondly, by demythologizing theology, the theology of the Cross further radicalized the prohibition of images, desacralizing all claims to divinity in man, nature or natural theology and democratizing government.¹⁷⁹

Moltmann does not wish to make political questions a central issue of theology. However, Christianity has been politicized since the time of Constantine as it has taken over the political and social mores of society. In addition it has Christianized the state religions. The churches which wish to remain socially neutral are never non-political. Moltmann contends that "... they fulfil needs in the fashion of a political religion; that is, they provide for the symbolic integration of society and its homogenization and self-confirmation".¹⁸⁰

Political theology is hermeneutical in the sense that it moves beyond mere existential and personalist interpretation of scripture text. Moltmann would express the relationship as follows: "Participation in history is participation in the history of mankind, in political, social, and scientific-technical history ... [it] reaches far beyond the search for the meaning of one's own being".¹⁸¹ Theology is not pure theory, nor is it blind action. Theory, political and ethical aspects, complement each other. Political theology would

like to interpret the message of Christ within the conditions of contemporary society. The purpose is to be able to free man from the restrictions, creations and limitations of society and so prepare the way for the eschatological freedom of the new man.¹⁸² It is indeed true that no scriptural text can be understood apart from the definite social background and institutions that brought it into existence. In addition, it must be understood in terms of conditions which lie behind efforts to overcome the real misery of the time. Form criticism, for Moltmann, tried to understand the texts within their social and political situations. However, the texts need a further understanding in terms of the criticism of religion and the criticism of society.¹⁸³

In *The Experiment Hope*, Moltmann expresses his concern that theology should not lose its Christian identity in striving to "adapt" itself to society. In association with political and social movements it risks becoming a religion of society. Thus he says,

A modern theology which desires merely to be a "contextual theology" is often similar to a chameleon that always assumes the colour of its environment. Christian theology should not adapt itself in order to hide; it is required to reveal what is specifically its own in changing times. Christian theology should rather be an "anti-chameleon theology" and that means displaying colours which contrast with its environment.¹⁸⁴

The prophetic element within the Christian faith should enable Christians to stand back from partial historical realities and movements that have been idolized and uncritically assimilated from the surrounding culture.

Moltmann feels that the inner essence of Christian identity (in its identification with the crucified Christ) has the power to resist the idolatries of historical society. As noted earlier, God has, in the Crucified One, identified himself with the godless and the forsaken. The doctrine of the Trinity,¹⁸⁵ the eschatological concept of peace and the prohibition of idolatry in the Second Commandment provide a basis for a critical appraisal of historical society by Christianity. Strict monotheism has canonized a hierarchical-monarchical structure of society. Thus the unity of God had its political counterpart in one emperor, one empire and one Church.¹⁸⁶ However, three-in-oneness

exists only in the Godhead and consequently has no political counterpart. Thus, in time, the developing doctrine of the Trinity caused the collapse of what Moltmann calls "political metaphysics".¹⁸⁷ The eschatological peace proclaimed by Christianity had no counterpart in the *Pax Romana* or the peace of Christian Europe. Its hope lay in universal peace, secured, not by naked power, but by the powerlessness of the Crucified One. The prohibition of images in the Old Testament forbade not only religious idolatry but also political idolatry. The Christian faith in the Crucified One is, for Moltmann, a radical realization of the Old Testament prohibition of images. He affirms:

...the freedom that is opened up to it [the Christian faith] ... will enter into a permanent iconoclasm against political personality cults and natural religions and against money and community fetishism. It seems to be that Christianity should lead the way in the desacralization and democratization of political rule.¹⁸⁸

The above quotation indicates that political, national and cultural idols are seen as attempts at self-justification. All "works-righteousness" makes men slaves of their own works. They force the creator to bow down before the creature.¹⁸⁹ God, on the other hand, has justified the sinner through the death and resurrection of Jesus. Jesus was judged by the law and cursed by God. This judgement passed on Him on the Cross is turned into grace by His resurrection. Thus the justification of the "sinless one" Who was made "sin" must be understood as a new creation.¹⁹⁰ A *nova creatio* is revealed in the raising of the Crucified One. Through the "negation of the negative"¹⁹¹ (effected in the resurrection of the Crucified One) God has created new possibilities for history by justifying the unjustified and reconciling the godless. God's resurrection of Christ is a *creatio ex nihili*. Moltmann contends: "The event of justification in man is part of the universal transformation of the passing world, and to be understood as its beginning".¹⁹²

The act of God in Christ's crucifixion and resurrection must lead ultimately, through the justification of the sinner, to God's own glory in the new creation. In the justification of the godless the transformation of creation is seen.¹⁹³ Justification is thus ultimately

directed to the eschatological transformation of an unjust world. In this sense, then, the oppressed are the hope for the liberation of humanity.¹⁹⁴

In the identification of God with the Crucified One there is a partisanship (an identification of God with the "others" of society) with those who are social outcasts, politically insignificant and economically impoverished. Meeks, commenting upon Moltmann's concept of God's partisanship, says

For Moltmann, the public shape of Jesus' ministry demonstrates the partisan, creative love of God. His incarnating love is manifested not in ideal humanity, but in the real inhumanity of man.... Thus lowliness becomes the locus of the Son of Man's *parousia* and the kingdom and the justice of God find their way into the world among the poor and the unjust.¹⁹⁵

Thus it can be seen, that, for Moltmann, God is present and active especially within the "negatives" of history. God suffers with and through His enslaved creation. The suffering, the failures and the "negatives" within unglorified creation are linked to the suffering of the God of pathos.¹⁹⁶ In *The Power of the Powerless* Moltmann expresses the creative suffering of God in these words

To put it simply, God suffers for us because he loves us. Love and suffering go together... Christ reveals to us God's love, with its infinite capacity for endurance, for suffering. His love is passion - passion for men and women and their dignity, passion for creation and its peace....¹⁹⁷

However, God created mankind for liberty and freedom. For this reason the Christian faith is a liberation born from the resurrection of Christ. In this liberation men are raised into the creative liberty of God where they act in terms of its potentialities.¹⁹⁸

Through acts of liberation the *eschaton* in all its creative freedom is already anticipated.¹⁹⁹ This freedom is a messianic freedom which differs considerably from secular freedom of choice. Moltmann calls it a "passion for the possible".²⁰⁰ He defines it further,

It [freedom] happens where the future of God is anticipated in the open space. Liberation happens when the new creation of all things which

will be fulfilled in Christ is anticipatorily experienced.... *Freedom* as the fulfilled process of *liberation* is for Christian hope the eschatological goal of the new creation of God.... The *reality* of freedom is the eschatologically new and free world, but the *effects* of this freedom are present in the experiences and actions of liberation.²⁰¹

However, for Moltmann, man is not a one-dimensional being. Man suffers in many different dimensions of life and therefore liberation is a struggle against five "vicious circles of death".²⁰² Liberation takes place in the following areas: in the struggle for economic justice and against the exploitation of man, in the confrontation for political rights and the recognition of human dignity, in the fight for human solidarity against racial, cultural and sexist domination and exploitation, in the battle for peace and communion with nations threatened by the consequences of industrial pollution and the exploitation of the environment, and in the struggle for hope, meaning and fulfilment in a personal life often beset by apathy.²⁰³

There is such an interdependence between the various forms of oppression that co-operation between the different types of liberation is essential. Oppression and liberation operate simultaneously at many levels of the human situation. Moltmann contends:

These five dimensions belong so closely together that there can be no economic justice without overcoming cultural alienation and without personal conversion from apathy to hope. Whoever does not understand salvation in the most comprehensive liberal sense and does not strive for a network of saving anticipations over the various fields of devastation, does not understand salvation holistically.²⁰⁴

Through these messianic actions of liberation God's promise in history is both celebrated and anticipated. They are furthermore sacramental, for each of them is a real presence of God; a presence incarnated in time, yet straining beyond itself to a greater presence where God's indwelling will be all-in-all.²⁰⁵

In concluding this section it has become evident that the principal insight of Moltman's political theology has been the theoretical and practical combining of hope (resurrection) with the "negative" (cross) in contemporary existence. This means that in politics

Christians will, in Moltmann's words, "... realistically realize and accept the real and objective possibility that there is some correspondence with the future set before them."²⁰⁶ In the final section of this chapter attention will be focused on the specific Christian confrontation with the State. What is the mission of the church in relation to society and its problems?

2.8. CHURCH AND STATE

The vexed question of the Church's relationship to the political community is of seminal importance for Moltmann. From tradition he cites the models of "unburdening" and "correspondence" that have been used to relate the Christian faith to the political situation.²⁰⁷ According to the first model the Church and political society must be separate in order that each may be free to follow its demarcated path. The second model uses the correspondence between faith free from social conformity and unfree social situations enslaved by vicious circles of death. However, both models distinguish God and the world and, only secondarily, ask about a correspondence of faith to God in the world.²⁰⁸

Moltmann outlines various roles that the church has accepted in its relation to the political society. In a comparison of the approaches of Lutheranism and Calvinism (represented chiefly by Barth) he attempts to come to an acceptable synthesis in order to find a positive role for the Church within the historical society.²⁰⁹ The Church, for Moltmann, personifies eschatological hope for it is essentially, "... a *Church under the Cross*, an *exodus community* and a *charismatic community*, demonstrating the power of the new creation and the liberating sign of the coming free world".²¹⁰ The Church attempts through historical actions to be a force within history that leads it to its goal. The Church becomes a community that personifies eschatological hope.

Moltmann investigates the various social roles of the Church in history. After the collapse of the Roman Empire, the Church emerged as a reconciling centre of society. Christianity became the religion of the Empire and the cult of the State. After the Industrial Revolution, men associated for the purposes of industrial production, commerce and consumption. In this modern society, men were reduced into a new category of subjectivity where a personal search for meaning and existence could replace the former corporate life. Thus in this situation religion lost most of its social relevance and became a *cultus privatus*.²¹¹ Moltmann concludes,

The public vitality of Christianity declines in proportion to the emancipation of the 'society of needs' from the religious needs of society on the one hand and the growth in the church of the liberal, pietistic or existential inwardness on the other hand.²¹²

The result was that the Church did not disturb the social realm. It became socially irrelevant, merely an institution where the individual could unburden himself in his search for a personal, meaningful faith.²¹³ Therefore, the Church is seen as a community within the larger body of society. Here its purpose is to provide warmth, understanding and neighbourliness. It thus becomes for Moltmann "... a Noah's Ark for socially alienated man ..." ²¹⁴ with no effect on the public activity of society. Eventually, the Church conformed to the model of "institution" whereby it became yet another institution within society. It provided that security against the alienating and depersonalizing greater mass of society.²¹⁵

In his book *On Human Dignity* Moltmann rejects the inadequate attempts of both Luther and Calvin (represented chiefly by Barth) to create an understanding of the relationship between the Church and the State.²¹⁶

Luther's "two kingdoms" doctrine had clearly sought to define the two realms, one where the righteous keep God's laws, and the other where the mass of humanity lives in lawlessness. The first is ruled by the Gospel and the second by the sword; neither gospel nor sword must intrude into the realm of the other. However, as Moltmann

argues, the Gospel cannot originate in the ongoing battle between the kingdom of God and the kingdom of the devil. Rather, it should begin from God's victory over Satan on the Cross and the resurrection of Christ.²¹⁷ Moreover the injustice pertaining in the political kingdom ruled by the sword is unaffected by the justice-creating nature of the gospel. In addition, there is no specific Christian ethic, just an acceptance of the ethic of the worldly order. Consequently there is no world-transforming hope.²¹⁸

In contradistinction, Calvin placed the whole of public life under the command of God. Christian critical scrutiny thus extends beyond the morality of individuals into culture and society. The discipleship of Jesus covers all areas of life. This involves personal life, economic ethics and political ethics. In speaking of Barth's position, Moltmann writes,

Thus, the earthly, unfinished state and human, imperfect society are oriented towards the coming lordship of God. The Christian community makes this political eschatology apparent by living a consciously political existence.²¹⁹

For the Christian personal life involves the double aspect of calling and sanctification. Although sanctification means election to a different kind of life and to a particular service, it also means the transformation of life and society.²²⁰ Moltmann feels that political theology can learn much from the Reformed injunction to be different from others so as "to be for others"; otherwise, it is the case of "like" attracting "like".²²¹ The political ethics of Reformed theology involved a State contract in which God made a double covenant with his people (firstly with the whole people and then with the king). This was eventually to lead to the growth of modern democracy, for the king derived his sovereignty from the people as the People of God. In the event of his breaking the covenant, sovereignty would then revert to the people. Thus Moltmann feels that Calvin translated Luther's concept of the "universal priesthood of all believers" into "the universal kingship of all believers", thereby preparing the ground for responsible Christian political action.²²²

In Barth's political theory Moltmann discovers further consequences of the Calvinist doctrine of the lordship of Jesus Christ. Firstly, the whole world is objectively under Christ and his lordship. Secondly, the State, although independent of the Christian society,²²³ performs the work of Jesus Christ and is therefore oriented towards the coming lordship of Jesus.²²⁴ Moltmann shows how Barth conceives of the relationship between the Christian community and the civil community in terms of concentric circles. The Church, the inner circle, proclaims the liberating lordship of Jesus. The civil community, the outer circle, in preserving the world from chaos and promoting freedom, keeps the political kingdom open to the kingdom of God. Thus, expressed in Moltmann's words, Barth's position is as follows:

Politics on earth remains an imperfectible process of freedom and justice. Whoever tries to perfect this process politically becomes a tyrant; whoever resigns to this process delivers the world to the tyrants. Barth seems to see the indirect effect of Christ's proclamation and the Christian community on the civil community in the fact that political situations remain changeable and political changes are kept historically imperfectible. The Church does not divinize politics and it does not demonize politics either. It brings politics humanly into the suspension of permanent improvability and historical imperfectibility.²²⁵

In formulating Moltmann's distinctive approach which has undoubtedly been affected by the above historical sketch, two pertinent criticisms of Barth must be noted. Firstly, Barth's doctrine of the lordship of Jesus means that the Church already rules over heaven and earth.²²⁶ This lordship of Christ, for Moltmann, is not that of a powerful king, rather it is the lordship of the Crucified One who conquers not through the power of the resurrection but through weakness. The kingdom of glory lies ahead. Secondly, the lordship of Jesus applies to the discipleship of believers. This makes it invalid to advocate an apolitical philosophy relevant to Christian and non-Christian alike.²²⁷

Seminal to Moltmann's concept of the role of the individual Christian and of the Christian community is the idea of mission. The promise realized in the resurrection of Jesus points towards the future universal realization of that promise. So, as Moltmann contends, "The link between the coming history and the past history is provided in the

light of this forward-moving, historic mission".²²⁸

Thus the Christian involved in his apostolate is called upon to concern himself not only with what *is* but with what *ought to be*. Through the creative transforming action of faith and love he must decrease the discrepancy between present reality and God's new promised reality. Crisis-causing conditions need to be transformed to correspond to the promised "new". Mission becomes the opening up to a genuine possibility of what can be. Indeed, even history has a missionary structure. The "latency" of life is opened up by the eternal life created by the resurrection of the Crucified One. There is a corresponding "tendency" that drives the "latency"²²⁹ towards an eschatological goal of reconciliation²³⁰. The Spirit directs the process in which the power of life out of death is mediated to all creation. Hence Moltmann can say: "The indwelling of the Spirit ... is the anticipation of the eschatological indwelling of God's glory".²³¹

Thus man in his missionary dimension must be seen as one who hopes. Von Rad saw mankind as an eschatologically determined being, determined, not by capricious events, but by the continuity of God's sameness in historical events in history.²³² Moltmann, in similar vein, would see man as determined by the promised *eschaton* of the future. Man thus bears his nature not from himself, or from nature, but from the future to which mission leads him. Thus Moltmann observes:

Man attains to knowledge of himself by discovering the discrepancy between the divine mission and his own being, by learning what he is, and what he is to be, yet of himself cannot be... . In his call man is given the prospect of a new ability to be.²³³

Mission, therefore, opens man up to new possibilities. The whole present situation is understood in all its historic possibilities in respect of the future truth. Man, in seeking the "new Jerusalem", has been summoned by the divine promise. Therefore he must adjust himself to the universal, salvific, reconciling future of God. Moltmann writes:

His [the believer's] thinking adjusts all things to the coming messianic reconciliation... . He adjusts being to the universal, rectifying future of God ... His understanding consists in the fact that in sympathy with the

misery of living he anticipates the redeeming future of being and so lays the foundation of its reconciliation, justification and stability.²³⁴

Turning from the individual call to the Church's call, Moltmann regards the Church as the "community of eschatological salvation".²³⁵ He maintains,

The church lays claim to the whole of humanity in mission. This mission is not carried out within the horizon of expectation provided by the social roles which society concedes to the church, but it takes place within its own peculiar horizon of the eschatological expectation of the coming kingdom of God, of the coming righteousness and the coming peace, of the coming freedom and dignity of man. The Christian church has not to serve mankind in order that the world may remain what it is, or may be preserved in the state in which it is, but in order that it may transform itself and become what it is promised to be.²³⁶

Thus the Church is a veiled anticipation of the kingdom insofar as it creates in the world genuine anticipation of the end-time community.²³⁷

In these terms, then, Moltmann equates the world and the Church with the "old" and the "new". The world represents the spirit of sin, law and death. The Church, in her witness, represents freedom from these. Moltmann emphasises the active role of the Church in the creation and transformation of history. As the Church is a force that leads history to its goal, it is exodus church. Thus the salvation that is promised by faith far transcends the private salvation of Luther's "two kingdoms" theory. It is a public salvation and hence a political salvation. Consequently, the Church, as it is the community of hope, does not have to centre on itself but on the future.²³⁸

The two models of "unburdening" and "correspondence" mentioned earlier (p.40) are inadequate for Moltmann. He asks:

... must we not ... start [to] understand God *in* the world, the beyond *in* the this-worldly, the universal *in* the concrete and eschatology *in* the historical, in order to arrive at a political hermeneutics of the crucified Christ and a theology of real liberation?²³⁹

Liberation depends on the active presence of Christ in history. However, as was made evident in earlier sections of this chapter, this "opening up" of the Church to the world

in hope is linked with an acceptance of suffering. In an expectation of this future the suffering Church is to take upon itself the cross of the present. As Moltmann explains, the creative suffering of the Church is:

... the "yes" of faith to the cross of true love, [it] bears the fate of the present and yet lives in the life-giving spirit of the resurrection. It does not soothe and calm the tensions of brokenness and the devastations of our society, but rather it brings these to a head and confronts them with the divine transformation.²⁴⁰

Moltmann summarizes the Church's activity in the modern world and its specific role in the creation of hope in *The Church in the Power of the Spirit*.²⁴¹ He believes its four marks to be "one, holy, catholic and apostolic". However, his interpretation of these marks is not traditional. Hence the unity of the Church lies in the ingathering and unifying action of the Church rather than in the unity of its own members. It is further evidenced in the Church's concern for the suffering and the testimony of other "deprived" communities that it sees as its own. The catholicity of the Church is seen in its mission, for there is no sphere of life which Christ has not claimed as His own. The Church's catholicity is shown, too, in the Church's partisanship on behalf of both the oppressed and the oppressor. Both need reconciliation. It is for the sake of the kingdom that catholicity must be partisan. The holiness of the Church is exhibited in its poverty and its fellowship with the outcasts of society. This fellowship is an expression of love and solidarity with the poor. Finally, the Church is apostolic in its suffering. Participation in the apostolic mission of Christ leads the Church inescapably into suffering, contradiction and confrontation with the vicious circles of death.

In concluding this chapter it can be said that Moltmann has presented a view of Christianity as a critical force in the world. It is a power that addresses the society both from within and from beyond.

Moltmann himself, says "Only a future which transcends the experiment of history itself can become the paradigm of transcendence and give meaning to the experiment

'history'".²⁴² While not accommodating itself to the spirit of the times, Moltmann's theological position is nevertheless relevant in that it confronts contemporary problems, especially political ones. However, its relevance comes from the Crucified Christ. This is observed in its "testing" of the modern spirit and its espousal of provisionality. Ben Wiebe, speaking of Moltmann's view of the State, remarks that "Every form of the state is provisional in the sense that none will be ideal, for then the kingdom would have arrived. So no state will be so transformed as not to be in need of criticism."²⁴³ Thus, while Moltmann is not "enslaved" by the contemporary situation, he directs attention to the problems of society in general (including the covenant). His purpose is to make Christianity relevant to the world. However, there are only provisional solutions. There are no final solutions.

In the next chapter openness as an overall "method" in Moltmann's theology will be investigated. The eschatological basis of his theology makes him critical of any finality. All is open, pending the unveiling of truth on the last day. Thereafter the full unveiling of God in this event will begin eternal time where "... there will be time and history, future and possibility in the kingdom of glory as well, in that they will be present in unimpeded measure...".²⁴⁴ Openness, therefore, is without end.

FOOTNOTES

1 Apart from Moltmann, the most influential contributors to this development have been Wolfhart Pannenberg, Gerhard Sauter and Johannes Metz.

Pannenberg, Sauter and Moltmann are discussed by James M. Robinson in *Theology as History* Vol. 3, *New Frontiers in Theology*, pp. 1-100. and by Klaus Koch in *The Rediscovery of Apocalyptic*, vol. 22, SBT 2 ser., pp. 98-111. For a discussion of Metz and Moltmann see Walter H. Capps, *Time Invades the Cathedral: Tensions in the School of Hope*, pp. 41-90. On the background of hope theology see especially Merrill Douglas Meeks, *Origins of the Theology of Hope*.

2 M. D. Meeks, *Origins of the Theology of Hope*, p.16.

3 Karl Barth, *Church Dogmatics*, Vol. 1, pt. 2, pp.45-121.

4 *Ibid.*, pp.45-70 and Vol. 2. p.1., pp.608-677.

5 Ernst Bloch, *Atheism in Christianity*, p.265.

6 J. Moltmann, "Hope without Faith: An Eschatological Humanism without God", p.26.

7 *Ibid.*

8 C. E. Braaten, "Towards a Theology of Hope", p.214.

9 J. Moltmann, *The Experiment Hope*, p.37.

10 *Ibid.*, p.33.

11 *Ibid.*, p.38.

12 J. Moltmann, *Theology of Hope*. p.16.

13 Ernst Bloch, *Atheism in Christianity: The Religion of the Exodus and the Kingdom*, pp.84-122.

14 For Bloch "God" is an image or idol of man. However, this is not alienated, sensual man but rather the "undiscovered, future humanum". See *Das Prinzip Hoffnung*, pp. 1533ff.

15 J. Moltmann, *The Experiment Hope*, p.45.

16 J. Moltmann, *Theology of Hope*, p.100.

17 *Ibid.*, p.127.

18 "Christian Eschatology speaks of the future in utterances of hope based on the history of promise. These utterances do not conform to reality experienced in the present; they do not correspond to empirically verifiable reality. In fact, it is their very nature to contradict reality

as it is experienced at the present... . These statements of hope do not express our experience of reality; they stand over against the experience and provide 'the condition for the possibility of new experiences'" Carl E. Braaten, "Towards a Theology of Hope", pp.216-17.

19 J. Moltmann, *Theology of Hope*, pp.128-130.

20 J. Moltmann, *The Experiment Hope*, p.52.

21 J. Moltmann, *Theology of Hope*, pp. 95-102.

22 Moltmann draws a distinction between revelation as an "epiphany of the eternal presence" and as "apocalypse of the promised future" (*Theology of Hope*, p.57). Moltmann opposes the first idea as a Greek concept totally alien to the Bible. The second he defines as Hebraic and biblical. It should be noted that promise is a mode of being, but must not be confused with eternal presence. God is not "above us" (metaphysical/transcendent) or "within us" (existential) but "beyond us" or "ahead of us" (eschatological). The future must be considered as the mode of God's being.

23 J. Moltmann, *Theology of Hope*, pp.102-106.

24 *Ibid.*, pp.207-208.

25 J. Moltmann, "Resurrection as Hope", p.137.

26 *Ibid.*, p.138, p.146.

27 J. Moltmann, *The Future of Creation*, p.12.

28 *Ibid.*, pp.52-53.

29 J. Moltmann, *Theology of Hope*, pp.203-208.

30 *Ibid.*

Thus God's promise completely overtakes reality. It leaves reality behind as it were. Therefore the *novum* of the future contradicts present reality.

31 *Ibid.*, p.227.

A distinction must be made between the future as *futurum* and future as *adventus*. *Futurum* is "the actualization of the primordial potential" ("Theology as eschatology", *The Future of Hope*, pp.11-12). *Adventus* or *Parousia* is not an emergent organic process but rather an "arriving future" (*Theology of Hope*, p.227). "The parousia of Christ is a different thing from a reality that is experienced now and given now ... it brings something new" (*Ibid.*) Cf. Bloch's "Utopian being" arising from the world processes; being is "not yet" (Meeks, *Origins of the Theology of Hope*, p.84).

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- 32 J. Moltmann, *The Future of Creation*, p.20.
- 33 *Ibid.*, p 23.
- 34 *Ibid.*, p.25.
- 35 *Ibid.*, p.26.
- 36 *Ibid.*, p.30.
- 37 *Ibid.*
- 38 "If in the justification of the sinner God attains to his right, then this justification is the beginning and foreshadowing of his sole lordship. The divine righteousness which is latent in the event of Christ has an inner trend towards a totality of new being. The man who is justified follows this trend in bodily obedience. His struggle for obedience and his suffering under the godlessness of the world have their goal in the future of the righteousness of the whole" (J. Moltmann, *Theology of Hope*, p.207). Moltmann is in effect declaring that man is eschatologically determined. Human nature comes not from man or from nature but from the nature to which he is called. Justification is God's action in the new creation.
- 39 J. Moltmann, *The Future of Creation*, p.44.
- 40 *Ibid.*, p.45.
- 41 *Ibid.*, p.47.
- 42 *Ibid.*, p.48.
- 43 Moltmann interprets Christian eschatology as an *eschatologia crucis*. See *Theology of Hope*, pp.159ff. God is truly "incarnated" in his suffering and death on the Cross. Without the Cross, Christianity loses its historical character.
- 44 J. Moltmann, *The Future of Creation*, p.59.
- 45 K. Barth, quoted in J. Moltmann, *The Crucified God*, p.89.
- 46 *Ibid.*, p.205.
- 47 J. Moltmann, *The Future of Creation*, p.62.
- 48 J. Moltmann, *The Crucified God*, p.249.
- 49 *Ibid.*
- 50 J. Moltmann, *The Crucified God*, p.46.
- 51 J. Moltmann, *The Theology of Joy*, p.63.
- 52 J. Moltmann, *The Crucified God*, pp.270-274. Heshel, drawing on the Hebrew prophets and

the covenant relationship between Yahweh and his people, correlates two concepts, the *pathos* of God and the *sympatheia* of man. Moltmann develops a Christology of this nature within a trinitarian understanding of God. See section 2.3.

- 53 J. Moltmann, *The Future of Creation*, p.69.
- 54 J. Moltmann, *The Experiment Hope*, p.76.
- 55 J. Moltmann, *The Crucified God*, p.275.
- 56 J. Moltmann, *The Experiment Hope*, p.79.
- 57 J. Moltmann, *The Future of Creation*, p.73.
- 58 C. Morse, *The Logic of Promise in Moltmann's Theology*, pp.118-119.
- 59 J. Moltmann, *The Crucified God*, p.207.
- 60 *Ibid.*, p.246.
- 61 *Ibid.*, p.201.
- 62 J. Moltmann, *The Future of Creation*, p.65.
- 63 *Ibid.*, p.192.
- 64 J. Moltmann, *The Experiment Hope*, p.81.
- 65 J. Moltmann, *The Crucified God*, p.192.
- 66 *Ibid.*, p.207.
- 67 The Greek word "paradidonai" means to deliver up, to cast out. It is thus a strong word and Moltmann insists on it: "The Son dies from the Father's curse. He is the forsaken God. The Son suffers death in dereliction." (J. Moltmann, *The Future of Creation*, p.73).
- 68 J. Moltmann, *The Trinity and the Kingdom of God*, p.81.
- 69 *Ibid.*
- 70 *Ibid.*, p.82.
- 71 J. Moltmann, "The 'Crucified God'. A Trinitarian Theology of the Cross", p.293.
- 72 "The formal principle of knowledge of the cross is the doctrine of the Trinity." J. Moltmann, *The Crucified God*, p.241.
- 73 J. Moltmann, *The Trinity and the Kingdom of God*, p.126.
- 74 *Ibid.*
- 75 J. Moltmann, *The Future of Creation*, p.74.

76 *Ibid.*, p.75.

77 C. Morse, *The Logic of Promise in Moltmann's Theology*, p.123-24.

78 J. Moltmann, *The Trinity and the Kingdom of God*, p.151.

79 *Ibid.*, pp.151-154.

This means that the immanent Trinity is not above the open unity of Father, Son and Holy Spirit as revealed in salvation history. God is rather the triune community being praised for itself, not for its historical acts. Cf. Roger Olson, "Trinity and Eschatology: The Historical Being of God in Jürgen Moltmann and Wolfhart Pannenberg", p.216.

80 J. Moltmann, *The Trinity and the Kingdom of God*, p.161.

81 *Ibid.*

82 R. Olson, "Trinity and Eschatology: The Historical Being of God in Jürgen Moltmann and Wolfhart Pannenberg", pp. 217-218.

83 Moltmann avoids starting from a patristic concept of one divine substance or Hegel's idea of God as an absolute subject, i.e., one subject-three modes of being. In both cases we are led to modalism which leads "... inescapably to the disintegration of the doctrine of the Trinity in abstract Monotheism" (J. Moltmann, *The Trinity and the Kingdom of God*, p.17). Rather, Moltmann suggests that we commence "with the trinity of the Persons ... and then go on to ask about the unity" (*Ibid.*, p.19).

84 J. Moltmann, *The Trinity and the Kingdom of God*, pp. 144-148. He argues that both have failed in their attempts at self-communication in the Godhead. Their God is both solitary and distinct from suffering creation.

85 *Ibid.*, p.131.

86 *Ibid.*, p.95.

87 *Ibid.*, p.175.

Parallel to the doctrine of perichoresis is John Damascene's doctrine of "circumincessio": "...this concept grasps the circulatory character of the eternal divine life. An eternal life process takes place in the triune God through the exchange of energies. The Father exists in the Son and the Son in the Father, and both of them in the Spirit, just as the Spirit exists in both the Father and the Son. By virtue of their eternal love they live in one another to such an extent, and dwell in one another to such an extent, that they are one. It is a process of most perfect and intense empathy" (*Ibid.*).

88 Cf. M. D. Meeks, "Trinitarian Theology", p.476.

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- 89 J. Moltmann, *God in Creation*, p.xii.
- 90 *Ibid.*, p.i.
- 91 *Ibid.*, pp.97f.
- 92 "Basic to all Kabbalistic systems is the distinction between God as he is known by his creatures and in relationship to his creation, and God as he truly is in Himself, the Absolute Essence. The latter is described by Kabbalists as *Ein-sof* ('Infinite'). This absolute perfection does not reveal itself in a way that makes knowledge of its nature possible, and is not accessible even to the innermost thoughts of the contemplative. Only through the finite nature of every existing thing, through the absolute existence of creation itself, is it possible to deduce the existence of *Ein-sof* as the first infinite cause (Col.557). This presents an extra-ordinary problem: how did *Ein-sof* move from hiddenness and utter isolation and self-sufficiency to be the creator of a world outside himself which yet contains within itself his own revelation? How did he move actually from concealment to creation and revelation? Both these 'how' questions require a speculative description of a process for their answer (Col. 559). The answer is given in terms of emanation and a concept of the *sefirot* (the ten stages of emanation which form the realm of God's manifestation and his attributes open to human knowledge) (Col. 560-579). The metaphor of *zimsum* was first used by Isaac Luria (1534-1572) to describe the process which enabled the first stage (*sefirah*), and it inaugurated a whole new period of Kabbalistic speculation. Its originality lay in the notion that the first act of *Ein-sof* was not one of emanation and revelation but, on the contrary, one of concealment and limitation - precisely for the purpose of creating 'space' outside of the omnipresent one in which his creation could eventually exist". (J. McPherson, "Life, the Universe and Everything: Jürgen Moltmann's 'God in Creation'", *St. Mark's Review*, (128), pp.39-40).
- 93 J. Moltmann, *God in Creation*, p.88.
- 94 *Ibid.*, pp 87-88.
- 95 *Ibid.*, p.74.
- 96 J. Moltmann, *The Trinity and the Kingdom of God*, p.107.
- 97 *Ibid.*, p.53.
- 98 God has introduced suffering into the Godhead as part of his loving, creative nature. Creation can be traced to a dichotomy in God so that Moltmann can say that there is a "... rift which runs through divine life and activity until redemption" (J. Moltmann, *The Trinity and Kingdom of God*, p.30). Moltmann also introduces the world into the Godhead as the other side of the Son (cf. creative love). The Spirit also moulds the inner life of the Trinity through the liberation of enslaved creation (*Ibid.*, p.161). The ultimate panentheistic doctrine is reached in these

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- words: "When everything is 'in God' and 'God is all in all', then the economic Trinity is raised into and transcended in the Immanent Trinity. What remains is the eternal praise of the triune God in his glory" (*Ibid.*).
- 99 J. Moltmann, *The Trinity and the Kingdom of God*, pp.58-59.
- 100 *Ibid.*, p.59.
- 101 *Ibid.*, p.60.
- 102 J. Moltmann, *God in Creation*, pp. 90-91.
- 103 J. Moltmann, "God and Creation", in *Creation, Christ and Culture*, pp. 122-125.
- 104 *Ibid.*, pp.124-125.
- 105 Moltmann sees evolution as growing from communication within the open society. Through an ever-growing inter-dependence, richer and richer possibilities are opened up. He states:
1. If the individual systems out of which the universe is built are open systems, it would seem obvious to interpret the universe analogously as an 'open system'.
 2. If the evolution of open systems leads to complex open systems and, if we can see no end to this evolution, then it would seem obvious to talk of the universe itself as a 'self-transcending system'.
 3. As an open system, the universe is both participatory and anticipatory. As a self-transcending system, all individual systems of matter and life with their complexes of communication 'ex-ist' into a transcendence and subsist out of that transcendence. We call this transcendence of the world 'God' (J.Moltmann, *God in Creation*, p.205).
- 106 J. Moltmann, *God in Creation*, p.100.
- 107 "Self-assertion and integration, self-preservation and transcendence are the two sides of the process in which life evolves" (*Ibid.*).
- 108 *Ibid.*, p.102.
- 109 *Ibid.*
- 110 *Ibid.*, p.208.
- 111 *Ibid.*, p.210.
- 112 J. Moltmann, "Creation and Redemption", in *Creation, Christ and Culture*, p.126.
- 113 J. Moltmann, *God in Creation*, pp.210-211.
- 114 J. Moltmann, "Creation and Redemption", in *Creation, Christ and Culture*, p.127.

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- 115 J. Moltmann, *God in Creation*, p.214.
- 116 *Ibid.*, p.288.
- 117 *Ibid.*, pp.288-290.
- 118 J. Moltmann, "Creation and Redemption", in *Creation, Christ and Culture*, p.130.
- 119 "The peculiarity of Christian theology can be defined as follows: *Christian theology speaks of God historically and of history eschatologically*" J. Moltmann, "Hope and History", p.372.
- 120 J. Moltmann, *The Theology of Hope*, p.104.
- 121 J. Moltmann, "Hope and History", p.375.
- 122 J. Moltmann, *Theology of Hope*, p.98.
- 123 J. Moltmann, "Hope and History", pp.382-383.
- 124 J. Moltmann, *The Future of Creation*, p.16.
- 125 *Ibid.*, p.17.
- Jesus' resurrection is in itself an eschatological *novum* (J. Moltmann, "Resurrection and Hope", pp.136-7).
- 126 Moltmann sees that in the Christ event there is a real incarnation of God's promised future. In this sense then Jesus is the representation of the coming God (Cf. eschatological Christology). Moltmann expresses the concept thus: "In this [Christ] event there lies a real anticipation of the future of history in the midst of history". J. Moltmann, "Hope and History", p.379.
- 127 J. Moltmann, *The Future of Creation*, p.17.
- 128 *Ibid.*
- 129 J. Moltmann, "Resurrection as Hope", p.139.
- 130 See J. Moltmann, "Political Theology", pp. 6-23.
- 131 J. Moltmann, "Resurrection as Hope", pp.141-145; J. Moltmann, "The Crucified God", pp.6-18.
- 132 J. Moltmann, *The Future of Creation*, pp.118-119. Moltmann finds the present situation a contradiction of the promised future. Salvation is not yet in sight for the work of God is incomplete. For this reason the vision of the new creation is rooted, not in the present enslaved human situation but in the resurrection of Jesus. Cf. J. A. Irish, "Moltmann's Theology of Contradiction", p.24.
- 133 *Ibid.*, p.117.

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- 134 *Ibid.*, p.118.
- 135 *Ibid.*, p.119.
- 136 Cf. J. Moltmann, *God in Creation*, pp.107-139 (The Time of Creation).
- 137 J. Moltmann, *The Future of Creation*, p.120.
- 138 *Ibid.*, p.122. See also J. A. Irish, "Moltmann's Theology of Contradiction", pp.30-31; J. Moltmann, "Creation and Redemption", in *Creation, Christ and Culture*, pp.126-27.
- 139 *Ibid.*, p.124.
- 140 Here is the true realm of freedom; the progressive freedom from the realm of necessity and the opening up of closed systems within creation and history is only the beginning. It is not the realm of freedom.
- 141 J. Moltmann, *The Future of Creation*, p.126.
- 142 *Ibid.*, p.93.
- I believe that Moltmann expresses this notion best in *God in Creation*, p.206: "We then have to understand God, for his part, as a Being open to the world. He encompasses the world with the possibilities of his being, and interpenetrates with the power of his Spirit. Through the emergence of his Spirit, he is present in the world and immanent in each individual system. The recognizable trend to communication towards every side, and the thrust towards permanent self-transcendence in all open systems, are signs of the presence of God's spirit in the world, and reaction to that presence. This is what was already meant by the ancient doctrine of the *vestigia Dei*".
- 143 *Ibid.*
- 144 *Ibid.*
- 145 J. Moltmann, "Descent into Hell", p.119.
- 146 J. Moltmann, *The Future of Creation*, p.94.
- 147 *Ibid.*, p.86. See also J. Moltmann, *God in Creation*, pp.70-94.
- 148 *Ibid.*, pp.86-87. See also J. Moltmann, *God in Creation*, pp.94-96.
- 149 *Ibid.*, p.88.

In *The Trinity and the Kingdom of God* Moltmann has a useful summary of the Trinitarian activity in the sending, the lordship and the eschatological gathering. "In the sending, delivering up and resurrection of Christ are found the following sequences: Father - Spirit - Son. In the lordship of Christ and the sending of the Spirit the sequence is: Father - Son - Spirit. But, when

we are considering the eschatological consummation and glorification, the sequence has to be: Spirit - Son - Father" (p.94).

150 J. Moltmann, *Hope and Planning*, p.82.

151 *Ibid.*, p.84.

152 Moltmann states that the idea of time cannot be one-dimensional or strictly linear. The past cannot be viewed merely as a preliminary to the present. He states: "It must see the past as the past present, with its own present and its own future, and must distinguish between the future of a *past present*, and the present which has grown out of it. Present present has its own presupposition, not merely past present, but also the future of the past present. What is called present today came into being out of the hopes and multifarious possibilities of a past present. Analogously, we must distinguish between the present future (as an imaginative field of hopes, fears and diverging aims, with a forecourt of already definable and as yet indefinable possibilities) and a future present (which is the reality which develops out of this). The present present is not identical with the future of the past present; nor will the future present be congruent with the present future ... *the future as project* always goes beyond *the future as experience*. The future that transcends all remembered, experienced and still-to-be-experiments presents what we call the eschatological future" (J. Moltmann, "Theology in Transition -To what" in *Paradigm Change in Theology*, A Symposium for the Future, p.325-326).

153 J. Moltmann, *Hope and Planning*, p.84.

154 *Ibid.*, p.80.

155 J. Moltmann, *Man*, p.15.

156 J. Moltmann, *Hope and Planning*, p.24.

157 *Ibid.*, p.106.

158 Man is presently un-man in the current historical process. His true identity as man lies in God's future. In the present dispensation, then, he lives in a tension between un-man and man. Moltmann expresses the notion as follows: "Real man does not conform to his creation and vocation; he contradicts them. He is not 'man', but *unmensch*, un-man, a monster Man's inhuman reality is dominated by his perversion of his vocation to be the image of God". (J. Moltmann, "Man and the Son of Man", in *No Man is Alien*, p.212).

159 G. Clarke Chapman, "Moltmann's Vision of Man", pp.318.

160 J. Moltmann, *The Crucified God*, p.212.

161 J. Moltmann, *Theology of Hope*, pp.22-26.

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- 162 *Ibid.*, p.23.
- 163 J. Moltmann, *Man*, pp 106-107.
- 164 Moltmann's major target is Marxism for here, he says, is a strong application of Aristotelian anthropology, that is, man creates himself by what he produces. See J. Moltmann, *Theology of Play*, pp.45-56.
- 165 J. Moltmann, *The Crucified God*, p.331.
- 166 J. Moltmann, "Hope and the Biomedical Future of Man", in *Hope and the Future of Man*, p.102.
- 167 Translation: G.C.Chapman, "Moltmann's Vision of Man", p.321.
- 168 J. Moltmann, "Man and the Son of Man", in *No Man is Alien*, p.215.
- 169 Translation: G.C. Chapman, "Moltmann's Vision of Man", p.321.
- 170 J. Moltmann, *Religion, Revolution and the Future*, pp.122-127.
- 171 *Ibid.*, p.33.
- 172 J. Moltmann, "Man and the Son of Man", in *No Man is Alien*, p.211.
- 173 G. C. Chapman, "Moltmann's Vision of Man", p.326. Moltmann can say: "Identification of the self with bodily and social existence has been replaced by the category of having and possessing, affording an increasing differentiation between man and the reality of his life" (*Religion, Revelation of the Future*, p.56). "To the difficult medical process of the objectification of the body as body belongs, conversely, the difficult and lengthy process of the subjectification of the body as the body of the 'I'... . Progress in medical technique concerned with the body must therefore be balanced by the development of an increased sensibility of the 'I' if it is to be humanly assimilated" ("Hope and the Biomedical Future of Man" in *Hope and the Future of Man*, pp.100-101).
- 174 J. Moltmann, "Man and the Son of Man", in *No Man is an Alien*, p.212.
- 175 J. Moltmann, *Man*, pp.105-111.
- 176 These vicious circles of death are poverty, oppression, racial and cultural alienation, pollution of nature, personal apathy or Godforsakenness. They are outlined in detail in *The Crucified God*, pp.329-335.
- 177 J. Moltmann, *The Crucified God*, p.327.
- 178 "The Cross is the point at which the Christian faith distinguishes itself from other religions and ideologies, from unfaith and superstition. It is worthy of note that the cross of Christ is also the

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- one truly political point in the story of Jesus. It should therefore become the beginning point in the criticism of a Christian political theology" (J. Moltmann, *The Experiment Hope*, p.116). For a fuller exposition see the whole chapter "Political Theology" in *The Experiment Hope*, pp. 101ff.
- 179 J. Moltmann, "The Cross and Civil Religion", in *Religion and Political Society*, pp.35-36.
- 180 J. Moltmann, *The Experiment Hope*, p.105.
- 181 J. Moltmann, *Religion, Revolution and the Future*, p.92.
- 182 J. Moltmann, *The Experiment Hope*, p.103. Moltmann sees political religion as involved in the struggle of a nation to justify itself. Thus symbols, national origins, destiny and the struggle for existence become part of a national myth.
- 183 M. D. Meeks, *Origion of the Theology of Hope*, pp.141-142.
- 184 J. Moltmann, *The Experiment Hope*, p.3.
- 185 *Ibid.*, pp.107-108. See also J. Moltmann, *The Trinity and the Kingdom of God*, pp.191-200. Moltmann shows that the unity of Father, Son and Spirit is "democratic" and feels that the Trinity harmonizes "... personality and sociality in the community of men and women, without sacrificing the one to the other..." (p.199).
- 186 *Ibid.*, pp.106-107.
- 187 *Ibid.*
- 188 *Ibid.*, pp.114-115.
- 189 J. Moltmann, "Political Theology", p.17.
- 190 J. Moltmann, *Theology of Hope*, p.207.
- 191 This phrase has been derived from Hegel and Nietzche and means the combating of all that is dehumanizing and oppressive. From this "negation of the negative" creative values emerge.
- 192 J. Moltmann, *The Future of Creation*, p.170.
- 193 J. Moltmann, *The Experiment Hope*, p.57.
- 194 *Ibid.*
- 195 M. D. Meeks, *Origin of the Theology of Hope*, p.144.
- 196 J. Moltmann, *The Future of Creation*, p.99.
- 197 J. Moltmann, *Power of the Powerless*, pp.102-103.
- 198 "Christian freedom understands *itself* as the beginning and foretaste of that all encompassing

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- freedom which will bless all men and all things" (J. Moltmann, "Liberation in the Light of Hope", p.418).
- 199 J. Moltmann, *The Future of Creation*, p.102.
- 200 J. Moltmann, "Liberation in the Light of Hope", p.419.
- 201 *Ibid.*
- 202 J. Moltmann, *The Crucified God*, pp.329 ff.
- 203 *Ibid.*, pp.332-335. See also J. Moltmann, *On Christian Dignity*, p.110.
- 204 J. Moltmann, *On Christian Dignity*, p.110.
- 205 *Ibid.*, p.111.
- 206 J. Moltmann, *Religion, Revelation and the Future*, p.106.
- 207 J. Moltmann, *The Crucified God*, pp.318-321.
- 208 M. D. Meeks, *Origin of the Theology of Hope*, pp.131-132.
- 209 J. Moltmann, *Hope and Planning*, pp.131-150.
- 210 J. Moltmann, "Liberation in the Light of Hope", p.424.
- 211 J. Moltmann, *Hope and Planning*, pp.131-135.
- 212 *Ibid.*, p.134.
- 213 *Ibid.*, p.135.
- 214 *Ibid.*, p.137.
- 215 *Ibid.*, pp.138-139.
- 216 J. Moltmann, *On Human Dignity*, pp.61-96.
- 217 *Ibid.*, p.76.
- 218 *Ibid.*
- 219 *Ibid.*, p.85.
- 220 J. Moltmann, *The Experiment Hope*, pp.121-122.
- 221 *Ibid.*, p.124. Moltmann proposes that as Christians become a minority in today's society so they will learn from Calvinist morality to become aliens among their own people for the sake of Christ. Only he who is different from others can be "for others" (*Ibid.*).
- 222 *Ibid.*, p.128. The point here is that all men, including the king, are made in the image of God. This effectively means that all men are created not for subjection but for lordship.

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- 223 J. Moltmann, *On Christian Dignity*, p.87. "Apart from the kingdom of God, the civil community has no existence based upon and developing according to its own destiny. It is rather - outside the church but not beyond the domain of the lordship of Jesus Christ - 'an exponent of his kingdom'" (*Ibid.*).
- 224 *Ibid.*, p.85.
- 225 *Ibid.*, p.88.
- 226 Moltmann's eschatological doctrine would mean that the lordship of Christ is a new order of existence. It is not in the past or the present reality. Thus Moltmann can state in his paper "Christian hope: Messianic or Transcendent?" A theological discussion with Joachim of Fiore and Thomas Aquinas, (*Horizon*, (12), pp.328-348) "... Christian hope is *messianic hope within the horizon of eschatological expectation*" (p.348).
- 227 J. Moltmann, *On Christian Dignity*, pp.93-95.
- 228 J. Moltmann, *Theology of Hope*, p.284.
- 229 These terms "latency" and "tendency" can only be understood in terms of Ernst Bloch's philosophy. He uses the term "tendency" in order to understand the drive of process matter. There are forms of possibilities which become actual as soon as impediments realization are removed. Thus the world is full of the "not yet" which strives as a tendency (cf. E. Bloch, *Das Prinzip Hoffnung*, pp.357-8). The term "latency" is used by Bloch to designate the entelechy of matter in potentiality (cf. E. Bloch, *Das Materialis muz problem*, G.A., vol. 7, p.469). Thus the latency is what is "still concealed", "not directly visible", "not yet out". It can be said that the latency gives the tendency its direction. W. Hudson (*The Marxist Philosophy of Ernst Bloch*) gives a useful definition: "as the latency of the dialectical tendency, the latency gives the tendency its direction, ...the manner in which the not-yet-existing purpose content makes itself effective in the tendency" (p. 115).
- 230 J. Moltmann, *Theology of Hope*, pp.259-261; p.284.
- 231 J. Moltmann, *The Trinity and the Kingdom of God*, pp.211-212.
- 232 G. von Rad, *Old Testament Theology, Volume Two*, pp. 426-428.
- 233 J. Moltmann, *Theology of Hope*, p.285.
- 234 *Ibid.*, p.290.
- 235 *Ibid.*, p.325.
- 236 *Ibid.*, p.327.
- 237 J. Moltmann, "Liberation in the Light of Hope", p.424.

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- 238 J. Moltmann, *Theology of Hope*, pp.325-338.
- 239 J. Moltmann, *The Crucified God*, p.321.
- 240 J. Moltmann, *Hope and Planning*, p.150.
- 241 J. Moltmann, *The Church and the Power of the Spirit*, pp.337-361.
- 242 J. Moltmann, *Religion, Revolution and the Future*, p.196.
- 243 B. Wiebe, "Revolution as Issue in Theology", p.119.
- 244 J. Moltmann, *God in Creation*, p.126.

CHAPTER THREE

MOLTMANN'S CONCEPT OF OPENNESS AS THEOLOGICAL METHOD

3.1. OPENNESS IN ESCHATOLOGY

Moltmann's eschatology, the genesis of openness, arises from the philosophical impact of Bloch's left-wing Hegelianism.¹ Moltmann makes his debt to Bloch clear: he finds it hard to imagine a more useful philosophy than that outlined in the *Principle of Hope* for enabling Christians to elaborate their own philosophy of hope.² As has been stated earlier (pp.6-7) the category *novum*, which is so important in Bloch's philosophy, is paralleled in Moltmann's theology by the *novum* of God's presence.

For Bloch the *novum* is a knowledge of the "not-yet-being"³ (*noch nicht sein*); a reminder to us that our present existence is not ultimate; a vision of a kind of reality that has never been, a vision of a possibility that might be realized. Thus the *novum* or perfection is an endless, infinite journey; "an open space, a vacuum..., the open area of what lies before us, the *novum* into which the various series of human ends go on".⁴ It is defined by Moltmann as the "...still open and unattained depth of man and the world, into which all hope's images reach... the realm that keeps moving ahead, ever and again uncomprehended and eluding our grasp; it is an open realm that beckons and excites".⁵

Bloch's *eschaton* is a transcendence beyond the existent development of history. In this sense the worldly reality displays openness and possibility and the *novum* is anticipated by creative forces that lie within the present. Thus Bloch can state: "The real genesis is

not at the beginning but at the end".⁶

For Moltmann, however, the Resurrection of Jesus is the eschatological *novum*, "...[it is] the *dawning*, the *anticipation*, the hidden *representation* of a future never possessed before".⁷ It is transhistorical in that it is historically unverifiable, for it is without historical analogy. Thus, "In this event there lies a real *anticipation* of the future of history in the midst of history".⁸ However, the resurrection of Jesus is a true *novum* for, according to Moltmann,

...[it] does not mean a possibility within the world and its history, but a new possibility altogether for the world, for existence and for history... . By the raising of Jesus we do not mean a possible process in world history, but an eschatological process to which world history is subjected.⁹

In *The Future of Creation* Moltmann elaborates on the above: "Only a future that transcends the experiment of history itself can become the paradigm of transcendence and give the experiment 'history' meaning".¹⁰ For Moltmann the future does not emerge from the processes of history (as it does for Bloch¹¹); rather, the present springs from the future, "...the starting-point is the anticipation, the prolepsis, the sending ahead of God's future, ...in the passion and resurrection of Christ"¹².

Thus the *novum* is found in transcendence. Bloch conceives it as a future before us rather than as an eternity above or within us. Moltmann contends that the future is the paradigm of divine transcendence. He states: "The future of history is something qualitatively different and new compared with what we have experienced in history".¹³

In *The Theology of Hope* the concept is clearly stated:

The *parousia* of Christ is a different thing from a reality that is experienced now and given now. As compared with what can now be experienced, it brings something new: Yet it is not for that reason totally separate from the reality which we can now experience and have now to live in, but, as the future that is really outstanding, it works upon the present by awakening hopes and establishing resistance.¹⁴

The world is then an open process. This means, according to Moltmann, that

...[it] becomes not a system with eternally repeatable structures, but an open history in which something new happens and can be realized... .

Thus it is not a completed creation but an open creative process...the world is itself a great experiment.¹⁵

Meeks sees an epistemological problem in the open experimental process: "How can something which does not already exist and which was only intimated in the past be an object of knowledge?"¹⁶ He relates how Bloch's view of knowledge as "anticipation of the not-yet-realized" provides Moltmann with the categories to define faith principally in terms of hope¹⁷. Faith anticipates the promised future of God. However, the promised future is not a result of open evolutionary processes. It is not an extrapolation from present history; rather, it is the desirable or hoped-for future, an *adventus*¹⁸. Christ is the anticipation of the coming God and the renewed transformed creation encompassing its new humanity.¹⁹ The vision of a new creation is thus rooted not in the present situation but in Jesus' resurrection.

However, Moltmann's use of dialectic²⁰ allows him to see the present as a contradiction to the promised future. When applied to God the dialectical principle means that God is revealed as God in his opposite. Thus the Cross becomes the present form of the resurrection. The believer seeks the coming God in the concrete agony of the Cross. Therefore the theology of the Cross is simply the reverse side of the theology of hope. As Moltmann states: "...there is no true theology of hope which is not first of all a theology of the cross".²¹ Expressed differently, it is in the raising of the Crucified One that the future transformation of the world is anticipated through the presence of God on the Cross.

Moltmann insists: "Truth must be practicable".²² He means by this that through the *theologia crucis* the believer is unable to reconcile himself to the constraints of a world that accommodates itself to death. He writes: "Unless it [faith] contains initiatives for the transformation of the world, it becomes a myth of the existing world".²³ However, the *theologia crucis* decries any identification of the coming kingdom with human Utopian dreams. Thus he argues:

What is the abundance of life? The death of death. What is complete freedom? The elimination of every rule, every authority and power.

What is God? The elimination of nothingness itself, which threatens and cajoles everything that exists and insults everything that wants to live but must die.²⁴

In Moltmann's dialectic eschatological openness must have its counterpart in the openness of creative suffering. The dialectic of cross and resurrection, then, points to the dialectic of suffering and hope. The meaning of openness in the suffering of the world will now be considered.

3.2. OPENNESS IN SUFFERING

Moltmann sees that suffering takes "multifarious forms"²⁵. He certainly sees the connection between sin and suffering when he declares: "Misery is the lot of anyone who sins against God. Thus misery is already inherent in the sin itself"²⁶. However, Moltmann understands that sin has its roots in the limitation of creation itself. He argues:

If creation in-the-beginning is open for the history of good *and* evil, then that initial creation is also capable of suffering and capable of producing suffering.²⁷

Creation in the beginning is, as Moltmann sees it, "...a system open for time and potentiality..."²⁸. Consequently sin is the "...self-closing of open systems against their own time and their own potentialities".²⁹ Closed systems eschew the suffering involved in self-transformation; in this way they become rigid and deathlike. The opening-up of closed systems involves the acceptance of the suffering accompanying the process of transforming growth.³⁰ Consequently, Moltmann defines salvation as "...the universal opening up of closed and isolated men and women and this closed world for the fullness of divine life".³¹

The closed, invulnerable man of success and action, the apathetic man, is the most poignant symbol of a creation closed against itself and its potentialities. As the *homo incurvatus in se*, he is self-isolated, fixed in the present reality³² and invulnerable to suffering, as well as to the weaker and more sensitive side of life. Moltmann's dialectic

contrasts the apathetic (closed) man with the *homo sympathetikos*, the open, vulnerable, receptive, sensitive and caring man.

The relationship between man and suffering cannot be understood apart from the relationship between God and suffering. The apathetic God of the philosophers is contrasted by Moltmann with the pathos of the Christian God. Thus,

In pathos, the all-powerful God goes outside of himself and enters into a relationship with a people of his choosing... . God takes man seriously to the point that he suffers from the actions of man and can be injured by them.³³

In the situation of the pathos of God, the sympathy of man is found:

In the sphere of the apathetic God, man becomes *homo apathetikos*. In the situation of God's pathos, however, he becomes *homo sympathetikos*... . The divine pathos finds its resonance in the sympathy of man, in his openness and sensitivity to the divine, the human and the natural.³⁴

The *homo sympathetikos* feels sympathetic openness to God and to his creation. It is not the *unio mystica*; rather, it is the *unio sympathetica* open and vulnerable to God's history in creation.³⁵ Moltmann recognizes here the dialectic of God's self-limitation and consequent self-subjection to suffering, on the one hand, and his eschatological self-deliverance from suffering, on the other hand. He writes: "Between these two movements lies the history of the profound fellowship between God and man in compassionate suffering - with one another, and in passionate love for one another".³⁶

A love that is creative is a love that suffers. Creativity and suffering belong in a dialectical tension.³⁷ Moltmann expresses the notion thus:

Creative love is ultimately suffering love because it is only through suffering that it acts creatively and redemptively for the freedom of the beloved. Freedom can only be made possible by suffering love. The sufferings of God with the world, the sufferings of God from the world, and the sufferings of God for the world are the highest form of his creative love, which desires free fellowship with the world and free response with the world.³⁸

The goal of creative suffering, both human and divine, is eschatological liberation. God identifies in His history with the unfree, the exploited and the suffering. The association

between suffering and freedom is clarified even further when Moltmann states:

The cry of freedom is therefore universal. It is the hunger of men and women. It is the desire of nature. It is the passion of God as it was revealed in the crucified Christ... [It] sees all individual sufferings and failures in the world against the background of God's patient suffering. It therefore sees all partial movements towards liberation against the horizon of God's own perfect and final history of liberation. In this way it introduces the testimony of God's suffering and God's freedom into each individual liberation movement.³⁹

The history of freedom-in-suffering is destined to become the kingdom of glory; for the crucified one who reveals it is also the resurrected Lord. The specific Christian freedom in the beginning is, then, the foretaste of the freedom for which all creation, all men and all things, long. It is, in Moltmann's words, "the passion for the possible"⁴⁰, "the place where the new creation of all things...is already anticipated"⁴¹, and "the eschatological goal of God's new creation"⁴².

The analysis in sections 3.1 and 3.2 led to what Moltmann would call "...revolution in the concept of God"⁴³. In the next section openness is related to the trinitarian processes in God. God, too, is becoming. As Moltmann states: "Just as God goes out of himself through what he does, giving his world his own impress, so his world puts its impress on God too, through its reactions, its aberrations and its own initiatives."⁴⁴

3.3. OPENNESS IN GOD

Moltmann argues that the trinitarian God is not a closed circle of perfect being in heaven, but rather, "...open to man, open to the world and open to time"⁴⁵. The trinitarian God takes up the historical processes of human suffering, through the cross, into the inner life of God. He writes:

All human history, however much it may be determined by guilt, and death, is taken up into this 'history of God', i.e. into the Trinity and integrated into the future of the 'history of God.' There is no suffering which in this history of God is not God's suffering; no death which has not been God's death in the history of Golgotha.⁴⁶

Thus the history of human suffering through the Cross is seen to be constitutive of the

reality of the Godhead. Moltmann so identifies the history of human suffering with God's inner trinitarian life that, on the Cross of Christ, God has freely made history's suffering death His own. Expressed even more strongly, God comes to His perfection only in and through the history of the suffering of creation. Thus Olson, commenting on this, states:

The event of the cross, as central and determinative as it is, is not exclusively determinative of the inner trinitarian life of God, but is dependent upon the kingdom of the Father in creation and the kingdom of the Spirit in the liberation and union of creation in God. All these together constitute the inner life of God in history and are mutually interdependent, just as the persons of the Trinity are mutually independent for their personhood.⁴⁷

This means that the trinitarian life of God changes in accordance with human historical change. God's inner trinitarian life is thus identified with the worldly processes involved in the establishment of the kingdom.

In order to establish this revolutionary theological concept Moltmann discredits the traditional distinction between God-in-Himself (the immanent Trinity) and God-for-us (the economic Trinity). In this way he is more easily able to identify God's essential being with human history. The distinction between the economic Trinity and the immanent Trinity had upheld God's transcendence over history. Moltmann disagrees, for such a distinction introduces a "contradiction"⁴⁸ into the very being of God. This means, according to Moltmann, that "... the God who loves the world does not correspond to the God who suffices for himself".⁴⁹ God is then separated from His creation.

Instead Moltmann proposes that we see the economic Trinity as the ground of the immanent Trinity. This God "...is in himself as he appears in salvation history".⁵⁰ However, as Olson suggests,

...not wishing entirely to identify God's being with human events, Moltmann posits a 'more' - an immanent Trinitarian life which, though affected by and stamped with these events, is transcendent to them as their future fulfilment and glorification.⁵¹

The immanent Trinity is here conceived as future; action flows from the economic Trinity to the immanent Trinity so that the immanent Trinity becomes an almost passive product of historical processes.

It is in the Cross that Moltmann establishes the identity between God's essential being and the history of human suffering. In fact, Moltmann insists that the Cross of Jesus should be the starting point for a Christian understanding of God. In this way an understanding of the passion of Christ will lead to a greater understanding of God. He states: "Christ's surrender of himself to a God-forsaken death reveals the secret of the cross and with it the secret of God himself".⁵² God is present in the suffering and death of Jesus, for it reveals the suffering in God. "My God, My God, why hast thou forsaken me?" The cry of Jesus belongs to the inner life of God. Moltmann reveals the implications in *The Experiment Hope*:

In the cross of Christ, a rupture tears, as it were through God himself... God rejects himself... God cries out to God... [Thus]... the event of the cross is an event within God.⁵³

The death of Jesus is eternally in the very being of God. Thus the only adequate way of speaking of the event of the Cross is in trinitarian terms. Moltmann believes that the historical event of the Cross reveals a God who is subject to suffering love in trinitarian distinctions. God is rather an "event... the event of the love of the Son and the grief of the Father from which the Spirit who opens up the future and creates life in fact derives".⁵⁴

The trinitarian God is constituted in the event of the Cross. He becomes Himself through the openness of the Cross: the experience of sacrifice and abandonment. As Moltmann expresses it, "He constitutes his existence in the event of his love. He exists in love in the event of the cross".⁵⁵

Moltmann's dynamic, "becoming" trinitarian doctrine of God begins with the givenness of the three persons. Their unity then becomes the problem.⁵⁶ He writes:

... it seems to make more sense theologically to start from the biblical history, and therefore to make the unity of the three divine persons the problem, rather than to take the reverse method - to start from the philosophical postulate of absolute unity in order then to find the problem in the biblical testimony. The unity of the Father, the Son and the Spirit, is then the eschatological question about the consummation of the trinitarian history of God.⁵⁷

Moltmann speaks of the three divine persons of the Trinity as three divine subjects: Father, Son and creative Spirit⁵⁸ Who work together in the trinitarian history of the Kingdom. Moreover Their unity is not a monadic unity.⁵⁹ Rather, the "...unity of the divine tri-unity lies in the *union* of the Father, the Son and the Spirit, not in their numerical unity. It lies in their *fellowship*, not in the unity of a single subject".⁶⁰

Moltmann uses the term *perichoresis* to find trinitarian unity in *relationship*. The persons of the Trinity are in a "... process of most perfect and intense empathy".⁶¹ Through their eternal love they live in one another to such a degree that they are one. Moltmann expresses the idea in this way:

The unity of the trinitarian person lies in the circulation of the divine life which they fulfil in their relations to one another... . It is bound to consist of the living fellowship of the three Persons who are related to one another and exist in one another.⁶²

God is then a community whose openness and freedom is found in self-giving and self-communicating love. Thus, one should not think of the Trinity as a fixed geometrical figure. Rather, the Trinity is a history of reciprocal relationships between the persons of the divine community. These persons take the initiative in action or are acted upon according to their function in creation, redemption, and the new creation.

The next section moves from openness within the Trinity to the Trinity as open to creation and its consummation. For Moltmann the Trinity is a dialectical event which is open to the future realization of the kingdom. He expresses this thought in self-confessedly inadequate imagery when he sees "The Father as the creating origin of the creation, the Son as its shaping origin and the Spirit as its life-giving origin"⁶³

3.4. OPENNESS IN CREATION

Moltmann's doctrine of creation must be understood as the indwelling of God, "... the transfiguring indwelling of the triune God in His creation".⁶⁴ He implies, then, that

... the Creator through his Spirit, *dwells* in his creation as a whole, and in every individual created being, by virtue of his Spirit holding them together and keeping them in life.⁶⁵

The doctrine of creation takes as its starting point "... the indwelling of the Spirit in all created beings."⁶⁶ For this reason creation is primarily a pneumatological doctrine. Through the Spirit, God the Creator takes up His dwelling in His creation. The Spirit who proceeds from the Father and shines forth in the Son is the very spirit of the universe - its continuing creator, its cohesive structure and its unity.

Moltmann's doctrine of creation corresponds very closely to the social doctrine of the Trinity as presented in *The Trinity and the Kingdom of God*. In this work, as has been noted, the concern is with the Trinity seen panentheistically in terms of "relationships and communication":⁶⁷

By taking up panentheistic ideas from Jewish Christian traditions, we should try to think *ecologically* about God, man and the world in their relationships and indwellings. In this way it is not merely the Christian *doctrine* of the Trinity that we are trying to work out anew; our aim is to develop and practise trinitarian thinking as well.⁶⁸

Moltmann's trinitarian doctrine of creation binds together God's transcendence and His immanence. Thus creation has its initial origin in the Father and is shaped by the Son while the Spirit is its life-giving organ.⁶⁹ In Moltmann's words, "Creation exists in the Spirit, is moulded by the Son and is created by the Father".⁷⁰ This doctrine proceeds from and is inherent in the realisation that the God who is transcendent in relation to the world, and the God who is immanent and dwells in His creation is one and the same. The Spirit is God's immanent presence in the world. For this reason a distinction must be made between the incarnation of the Logos who became flesh and the Spirit who "indwells".⁷¹ God in the Spirit commits Himself to His limited creation in self-limitation, self-humiliation and self-surrender. The Cabbalistic doctrine of the *Shekinah*

had prepared for a trinitarian solution in seeing this descent of God to human beings and His indwelling among them as a division which takes place in God Himself.⁷² This means that in the suffering inequalities of the world of nature and of human beings the sighs of the indwelling suffering presence of God is heard. Moltmann expresses this doctrine in these words: "The God who in the Spirit dwells in his creation is present to every one of his creatures and remains bound to each of them, in joy and sorrow".⁷³

As noted in section 3.2. the social doctrine of the Trinity finds its community in the circulation of the divine life fulfilled in the divine persons among themselves "...in their relational, perichoretically consummated life process...".⁷⁴ Likewise, the indwelling creative Spirit is the foundation for the community of creation. For this reason

It is not the elementary particles that are basic, as the mechanistic world-view maintains, but the overriding harmony of the relations and of the self-transcending movements in which the longing of the Spirit for a still unattained consummation finds expression.⁷⁵

The interpenetration and mutual interdependence of all created things finds its source and end in the reciprocal indwelling and mutual interpenetration (*perichoresis*) of the persons of the Trinity. God is "in" creation, thus "creation" is bound up with the trinitarian life of God.

What is the nature of God's works in the world? How do the divine actions of the Spirit in the world promote His indwelling and work towards the Sabbath consummation? Moltmann borrows the metaphor of the "open system" and uses it as a parable of the world in its relationship to God and in particular to the work of the Spirit. For this reason "...we give the name of Spirit to the forms of organization and modes of communication in open systems".⁷⁶

Moltmann provides four criteria whereby an open system may be distinguished: the future condition differs from the present starting-point; open systems pass through multiple processes of change; behavioural indeterminacy points towards an open range of anticipation; open systems display a qualitative difference between the future and the

past and the openness of a system is matched by its relative closedness, for only a relatively stable system meets the preconditions for open communication and anticipation.⁷⁷

Moltmann discusses four ways in which the cosmic spirit operates within these "open systems". First, the Spirit is the principle of creativity on all levels of matter and life. In this sense, then, the Spirit creates new possibilities as He is the principle of evolution.⁷⁸ Secondly, the Spirit is a holistic principle, the integrating uniting centre of purposeful consciousness. This means, according to Moltmann, that "... at every evolutionary stage he creates interaction, harmony in these interactions, mutual perichoresis, and therefore a life of co-operation and community".⁷⁹ Thirdly, the Spirit is the principle of individuation. This means that He differentiates what is particular in life and matter at various levels. However, individuation must be linked with integration, for they are complementary sides of the process of evolution. As Moltmann states: "Self-assertion and integration, self-preservation and self-transcendence are the two sides of the process in which life evolves".⁸⁰ Lastly, creations in the Spirit are "open" in that they are aligned towards their possibilities by the principle of intentionality.⁸¹

Openness poses the question of the relationship between necessity and freedom or determinacy and indeterminacy in both God and creation. Moltmann tries to avoid the question when he writes:

The later theological interpretation of creation as *creatio ex nihilo* is therefore unquestionably an apt paraphrase of what the Bible means by "creation". Wherever and whatever God creates is without any precondition. *There is no external necessity which occasions his creativity, and inner compulsion which can determine it.* Nor is there any primordial matter whose potentiality is pre-given to his creative activity, and which would set him material limits.⁸²

However, Moltmann does ascribe an inner compulsion to God's nature which the strict *creatio ex nihilo* would exclude. He comments:

If we lift the concept of necessity out of the context of compulsive necessity and determination by something external, then in God *necessity*

and *freedom* coincide; they are what is for him axiomatic, self-evident. For God it is axiomatic to love, for he cannot deny himself. For God it is axiomatic to love freely, for he is God.⁸³

This means that God cannot but will the good and therefore He is without choice in communicating Himself to His creation. It can be concluded, then, that God's own self-determination is "... an essential *emanation* of his goodness".⁸⁴ Moltmann sees selflessness as the essence of love; consequently, God is at once free to create or not, but must in essence be described as creative love.⁸⁵ There is, moreover, no distinction between God's eternal self-sufficient love as Father, Son and Spirit and His free love in creating a world distinct from Himself.⁸⁶ (See the blurring of distinctions between the immanent Trinity and the economic Trinity, pp.16-17).

Moltmann sees initial creation as creation with open possibilities. He says:

It is not perfect, but perfectible, in that it is open both to the history of damnation and salvation as well as to destruction and consummation ... as an *open system* ... the conditions for both its history and its consummation are established simultaneous with its beginning.⁸⁷

However, there are "open" conditions in the sense that the future does not inhere completely in the present. In the sense that it can bring something new it includes elements of randomness.⁸⁸

Moltmann thus theologically understands the universe, according to J. McPherson, as "... an open system ... [which] has a transcendent encompassing milieu with which it is in communication and a transcendent future into which it is evolving"⁸⁹. In this sense it "... hovers between necessity and randomness, and unfolds its character in its selection of choices".⁹⁰ The evolution of complex open systems involves an interaction between a fixed past and a partially open, undetermined future. The realization of every possibility gives birth to more complex situations which in turn open up a newer and further range of possibilities.⁹¹ For Moltmann this means that "... [a] richer wealth of forms is bound up with a growing indeterminacy of behaviour, and this again involves increasing future possibilities".⁹²

Such an open universe will be both participatory and anticipatory. As a participatory system the universe is evolving towards richer, more diverse communication between the open part-systems existing at various levels.⁹³ In this *perichoresis*, there is, in Moltmann's words, "... the trend towards the universal symbiosis of all systems of life and matter, by virtue of 'the sympathy of all things' for one another".⁹⁴ As an anticipatory system in which communication grows and possibilities increase, the thrust towards self-transcendence accelerates. This permanent self-transcendence, "... points towards the forecourt of an inviting and guiding transcendence, and it is only in this forecourt that the self-transcendence is possible".⁹⁵ The universe is an open self-transcending system and the individual part-systems of matter and life within these complexes of communication (*perichoresis*) reach up into a transcendence, on the one hand, and subsist out of that transcendence, on the other hand.

God's creative activity in history is the subject of section 3.5. God is engaged in creating the world in the present moment and will continue His work right up until the cosmic sabbath - in other words, right up to the eschatological consummation of all creation.⁹⁶ Moltmann sees the completion of the creative process in the kingdom of glory as a new creation; as the indwelling of God.⁹⁷ Here the openness of transcendent creation is a participation in the unlimited freedom of God. Thus openness is, for Moltmann,

The indwelling of unlimited possibilities open to God... the openness *par excellence* of all life-systems and, for that reason, their eternal capacity for life, not their rigidity.⁹⁸

Moltmann notes that within the evolution of complex systems, indeterminate behaviour (especially personal and social behaviour in humans) increases. The realization of the possibilities in open systems creates yet more open possibilities. Thus the kingdom of glory which completes the process becomes "... the openness of all finite life systems for the fullness of life".⁹⁹ Theologically this is the final indwelling of God in creation or "... the beginning of the 'eternal history' of God, human beings and nature".¹⁰⁰

The theology of creation relates to the understanding of salvation in history. As Moltmann expresses the connection,

Creation at the beginning establishes the conditions for the possibilities emergent in the history of creation. It defines the experimental area for both constructive and destructive possibilities. It is open to time and to its alteration within time.¹⁰¹

In the next section salvation in history as well as in political and church life will be understood as the opening up of closed systems.

3.5. OPENNESS IN HISTORY, POLITICAL AND CHURCH LIFE.

The openness of the historical process is related to God's presence in history. God's life is not held aloof from history, but is closely identified with the world processes of liberating salvation.

Moltmann understands history as a sacramental "matter" in which God is present through the word of compassion and power.¹⁰² There are materializations of the presence of God, real presences, in liberation from the vicious circles. Moltmann expresses the notion in this way:

They are incarnations which point beyond themselves. They stand in parallel to the traditional real presence of God in the sacraments... . In the vicious circles of alienation his presence is perceived in the experience of human identity and recognition... . Thus the real presences of God require the character of a *praesentia explosiva*.¹⁰³

However, a qualification of the above assertion is necessary, for two reasons. First, God is identified with what is opposite to His inherent glory and power in present history; this means He is identified with what is inglorious, weak and in bondage.¹⁰⁴ The paradigm for seeking God in His opposite is Christ's suffering death on the Cross and God's identification with this event. Secondly, God's presence in history is sacramental in that it points forward or beyond to a fuller, more complete presence. This fuller presence is God's eschatological presence when God will be all in all. This

analysis is captured by Moltmann when he states: "The peculiarity of Christian theology can be defined as follows: *Christian theology speaks of God historically and of history eschatologically*".¹⁰⁵ This means, on the one hand, that the life of God is inextricably interwoven with the historical movements of God and, that on the other hand, only in the future kingdom will historical processes be dealt with in retroactive validity in relation to the *novum* of the Resurrection. Expressed differently, when God is spoken of historically, He is related to concrete history witnessed in salvation history. When history is spoken of eschatologically, the universal future of all men and all things is anticipated.

The openness of the history of the kingdom of God cannot be understood, however, unless it is situated within the doctrine of the Trinity. It is through the Trinity that historical events become determinative of God's eternal life. Moltmann is loath to cling to any distinction between the immanent Trinity and the economic Trinity. However, he does not wish to dispense with the distinction entirely, locating it instead in doxology.¹⁰⁶

Moltmann is insisting that the immanent Trinity is no "other" beyond or above the open unity of the Father, Son and Holy Spirit in salvation history. It is, rather, God's transcendence, God's future, the outcome of the historical trinitarian processes and the power which activated, fulfilled and united the various provisional forces. The immanent Trinity belongs, then, to eschatology; the economic Trinity to the worldly processes of the establishment of the kingdom. For Moltmann, the flow of action is from the economic Trinity to the immanent Trinity in order to preserve the "openness" of the trinitarian life for man and history.

God is open in the sense that He is the future of history, "the coming God", "God in front of us, ahead of us", the "God of hope" and the "God of the Exodus".¹⁰⁷ In "sending" the Trinity is open towards the world because of its "threefold" sending love;

dialectically, the Trinity in the glorification is open for the ingathering and unification of humanity and of all creation in God because of the three-in-oneness of His "gathering love".¹⁰⁸

"Sending" and "gathering" are the protological and eschatological symbols of divine openness.

History is an open eschatological process in God which does not, however, rob mankind of freedom and historical initiative. Rather, it makes creative discipleship in an unfinished world possible. The task ahead is one of radical openness to new possibilities, a breaking free from present incompleteness and the building up of a new reality corresponding better to the promised future.

Historical openness understands itself as being the crying for a freedom only as yet anticipated in time. It is "a passion for the possible"¹⁰⁹. This cry for liberty runs through man, creation and even the Godhead.¹¹⁰ Thus it is a truly universal cry.

Moltmann declares:

It [the cry for freedom] is the hunger of men and women. It is the desire of nature. It is the passion of God, and it is revealed in the Crucified Christ... . A theology of liberation sees all individual suffering and failure in the world against the background of God's own patient suffering. It therefore sees all partial movements towards liberation against the horizon of God's own perfect and final history of liberation.¹¹¹

Thus all reality is open to the future, is "going somewhere" and its final transformation is provisionally embodied within the present.

Moltmann identifies the unfree world with negatives. These negatives, for Moltmann, are the "others":¹¹² the socially and culturally outcast, those who suffer economic destitution, the exploited environment and those who live in the apathy of personal despair and hopelessness. These "vicious circles of death" (p.39), as Moltmann calls them, are exposed by the suffering-identity of God with the Crucified Jesus. Having

identified the “negatives” within contemporary existence, God’s creative acts are the “negation of the negative” (p.37). These creative acts in history open up closed, moribund systems through the transformation of what Moltmann calls “non-human life systems”.¹¹³ The opening-up of these systems is impossible without the acceptance of creative suffering. For this reason, God’s openness to the world is displayed in the suffering and death of Jesus. Thus, the negation of the negative in history quickens life through the process of death and recreation.¹¹⁴ Thus the opening-up of the closed systems which militate against life and future eschatological fulfilment is the obverse side of the negation of the negative. They are, positively expressed, “creative acts”.¹¹⁵ They transform present reality, allowing it to reach the potentialities revealed in history in the raising of the Crucified One. This process is what Moltmann means by the “experiment hope”.¹¹⁶ However, to the extent that the “experiment hope” is open to the coming kingdom, those associated with it in faith and trust experience the groaning of unredeemed creation.¹¹⁷

Creation and history are unfree at the beginning. In Moltmann’s discussion terms such as “enslavement”, “primal fear”, “alienation” and “closed systems” relate to sin (p.25-27). This means that the origin of sin is implicit in the very creation of “possibilities”, “potentialities” and “freedom” in God’s initial creative act (p.26). Moltmann explains:

Creation in the beginning is also the creation of time. It must therefore be understood as *creatio mutabilis*. It is perfectible, not perfect, for it is open for the history of both disaster and salvation, both destruction and consummation. If we understand creation indivisibly and as a whole as an *open system*, then its beginning is at the same time the condition for its history and its completion. Creation in the beginning is the creation of conditions for the possibilities of creation’s history... . It is open for time and for alteration in time. We cannot see in initial creation the invariant nature of history, but we can see the beginnings of nature’s history.¹¹⁸

The unfree world is nowhere more evident than in the political domain. Moltmann’s political theology is not one of undue optimism nor one containing a strong social or political theory. Mankind lives in a world where nothing as yet corresponds to God’s promise and where there is a continual tension between the *now* (the unfree) in which

the promise is proclaimed and the *new* in which the promise is fulfilled.

Moltmann centres his political theology on the death and resurrection of Jesus. It is an event circumscribed within history, but it opens up history to a definite future. Consequently the death of the Crucified One reveals the truth of the human, social and political predicament of unredeemed man.¹¹⁹ Open political theology makes man aware of the contradiction between the hoped-for future and the conditions of the present. Expressed dialectically, it can be said that the Crucified One demonstrates what is wrong with the world, while the risen Christ is the messianic anticipation of the end-time. Thus Moltmann contends:

But if Jesus is the anticipator of God, then he must simultaneously and unavoidably become the sign of resistance to the powers of a world which contradicts God and to the laws of a world which is closed to the future... . Thus eschatological anticipation inevitably brings forth historical resistance. Salvation can enter the situation of misery in no other way; liberation can enter into a world of oppression in no other way.¹²⁰

Therefore the resurrection of Jesus is the eschatological anticipation and the beginning of the resurrection processes in the world's new creation. God becomes the power of the open future in the midst of history. This means that in the event of the Resurrection the expectations of man can be partially, though certainly, realized in history. The liberating future of God arouses hope of man's transcending every present historical and political limitation. The social and political realms are under the sentence of death, enslaved by the forces of law, sin and death.¹²¹

This unfree world is created for freedom and openness; the cry of liberty runs through the entire creation and the Godhead.¹²² However, freedom entails many risks, for it is the participation in the creative act of God and is open to all the human abuses of self-interest in power. Moltmann notes:

The risk of freedom in an unfree world is a big one... and it is true that everyone who is prepared for freedom must be prepared for the cross... . Freedom is the cross: that is the Gospel.¹²³

The "unfree world" is identified with the negatives which are the unspeakable sufferings

of society, the vicious circles of death¹²⁴ and various forms of slavery. These negatives are sin, and Moltmann identifies God's presence in the Crucified One with the community of sin and godforsakenness. Thus Moltmann sees the presence and power of the lordship of the Crucified One even in the sphere of sin's reign.¹²⁵ The Christian faith turns to these negatives in order to proclaim and promote the negation of the negative. However, the opening-up of these systems is impossible without the acceptance of creative suffering. In the same way as God's openness to the world is made manifest in the suffering and death of Jesus, so the negation of the negative manifests the opening-up of the closed systems in order to transform present reality. It can be said that Moltmann brings to political activity a sensitivity for transcendence, for the actualizing of the possibilities inherent in the negation of the negative are God's creative acts within history.

Moltmann sees Christianity as the very negation of ideology for it does not tether man to a particular ideology or final political vision. However, Christianity does draw the believer into participation in political life and into membership of his society. Thus Moltmann's political opinions are reflected in his dialectical detachment from political religion on the one hand, balanced by effective involvement in the secular realm, on the other hand. Without this appraisal it is not possible to address the political realm effectively from within Christian ethics.

Firstly, then, Christianity must become the power of liberation from political idols. Moltmann states:

Political religion would like to try to interpret the dangerous meaning of the messianic message of Christ within the conditions of contemporary society in order to free man practically from the coercions of this society and to prepare the way for the eschatological freedom of the new man.¹²⁶

It may be observed that Moltmann does not want to make political questions the main concern of theology, or to politicize the Church. He wishes, rather, to Christianize the political realm while maintaining the distinctiveness of Christian identity. Political

religion, for Moltmann, makes idols of the soul of the nation by replacing history with mythology. While it is often true that these state religions have been Christianized, nevertheless, in the process Christianity itself has been politicized, so provoking what Moltmann calls the "... current raison of the state"¹²⁷.

As Moltmann has shown in *The Experiment Hope*, monotheism has bolstered the monarchical structures of society and so provided a basis for political religion. Yet Christianity has the inner consistency and power (through the doctrine of the Trinity, the prohibition of the worship of idols, and the eschatological concept of universal peace) to break loose from political religion. The symbol of the Cross distinguishes the Christian faith from any other religion or ideology for it deprives the state or society of any religious justification. All the natural order holds sacred - the power of authority - the Cross demolishes in exalting its antithesis, which is freedom. Consequently the Christian faith becomes the power of liberation from political idols.¹²⁸ Christian hope in the raising of the Crucified One is a perennial symbol of resistance to the *status quo*.

Secondly, detachment from political idols is matched by the involvement of the Christian faith in the secular processes leading to the liberating freedom of God's transforming future. In Moltmann's distinctive approach:

For Christian hope, the world is not an insignificant waiting-room for the souls's journey to heaven, but the "arena" of the new creation of all things and the battleground of freedom... . It must ... draw the hoped-for future already into the misery of the present and use it in practical initiatives for overcoming this misery.¹²⁹

Mankind lives in a world where nothing as yet seems to correspond to the promise of God, and where there is a continual tension between the "old" in which the promise is proclaimed and the "new" in which the promise is fulfilled. The "old" is symptomatic of the vicious circles of death that enslave and frustrate creation's universal cry of freedom. Moltmann elaborates:

The road to peace leads right through these vicious circles... . Today these vicious circles have devilish power; they interlock like links in a chain; and they lead to death. Peace workers, therefore, must look for political, economic, cultural and religious ways that lead to life. Hope

in action must produce images and adaptations of peace that will make the hope of faith credible.¹³⁰

This Gospel of peace is put into action in the vicious circles of death where human potential is stunted and the threat of universal death most real. The new in God's creative acts means redistribution of economic power; realization of human rights; mutual respect for racial, cultural and sexual identity; partnership with, reverence for, and communion with nature and, finally, an appreciation of the quality of personal life.¹³¹ In these creative acts, society is opened up to the liberating freedom of Jesus Christ.¹³²

For these reasons Moltmann would contend that the Christian, both as an individual and as Church, is directed in openness towards the possibilities of what will be. Thus, in Moltmann's words,

The theory of world-transforming, future-seeking missionary practice does not search for eternal values in the existing reality of the world, but for possibilities that exist in the world in the direction of the promised future.¹³³

Through his faith in the resurrected One and the promise of His future, the believer must then transform existing reality in the power of the Spirit and the crucified One. His salvation is not only personal and social but one in solidarity with the whole creation. Thus the believer stands in a relationship of obedience to the world-transforming mission. Moltmann maintains that the believer

... does not link things, as in technical positivism, with his own subjectivity. Rather, he adjusts being to the universal, rectifying future of God. Thus his mediation serves the reconciliation of the world with God... His understanding consists in the fact that in sympathy with the misery of being he anticipates the redeeming future of being and so lays the foundation of its reconciliation, justification and stability.¹³⁴

Thus the practice and realization of a Christian in the world is a political question. The believer and the environment are open to the salvific acts initiated by the resurrection of Christ. Salvific reconciliation is a process of liberation. It is the opening-up of closed systems to their future potential in the *eschaton*. This liberation is multi-dimensional: freeing of theology from religious idolatry, politics from *political idolatry* and the Church from political and civil religion. The liberating service of the Church is

reflected in its concrete involvement in the transformation of the world.

The Church is to be an "exodus church" (p.40) and no longer the religion of society, the *cultus publicus*, representing the highest good of society. Rather, it is the Church *for* the world. The Church serves mankind by assisting the world to transform itself. It is the expectation of the coming kingdom and the vanguard of the coming righteousness. The Church serves *what is to be*. This, for Moltmann,

... does not merely mean salvation of the soul, individual rescue from the evil world, comfort for a troubled conscience, but rather the realization of the eschatological *hope of justice*; the *humanizing* of man, the *socializing* of humanity, *peace* for all creation.¹³⁵

Creative discipleship¹³⁶ suffers under the cross of the present in unfree creation. It is never an adaptation to the existing social patterns. It opens the present to the creative possibilities in reconciling the world to God and to his future. In so doing discipleship restricts social institutions in order that mankind may live in a world of possibilities that can serve the future promise.

Christian discipleship does have political consequences, but these can only aim to give the Church political liberty. This liberty will enable the Church to play a critical liberating role against the vicious circles of death that enslave the world. The Church's involvement in liberation means that it must take sides. It is partisan on behalf of those sufferings revealed by the Cross. There is no danger of the Church or the Christian conforming to the world if each seeks the identity of the Cross. In the Church's activity with the lowly it will have the freedom to stand back from partial historical realities, from political, cultural and religious idols, and any uncritical assimilation of culture. The Cross is a symbol of openness in that it will always have the power to contradict the present, the yet unfulfilled reality (p.11). It will contradict the *is* and through its link with the resurrection, open reality to the *ought*, that is, the promise of the future fulfilled in the *eschaton*.¹³⁷ Moltmann contends:

To act ethically in a Christian sense means to participate in God's history in the midst of our own history, to integrate ourselves into the comprehensive process of God's liberation of the world, and to discover

our own role in this according to our own calling and abilities. A messianically oriented ethics makes people into co-operators for the kingdom of God. It assumes that the kingdom of God is already here in concrete, if hidden, form. Christian ethics integrates suffering and ailing people into God's history for this world; it is fulfilled by the hope of the completion of God's history in the world by God himself.¹³⁸

Thus Christian creative discipleship anticipates the coming open kingdom of glory.

The next chapter will turn to the philosopher, Karl Popper. Openness is his overall thesis, too; the truth lies ahead. Popper is primarily a philosopher of science. His overall scientific method is falsification (a scientific *via negativa*) as opposed to verification. Chapter Four will investigate his approach and its bearing on the limitations of knowledge, especially scientific knowledge.

FOOTNOTES

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- 1 Moltmann is obviously much indebted to Hegel. An important feature of Hegel's thinking is his understanding of the historicity of God. This means that God is known to man through history and is actively involved in history. He is not a supreme being above and beyond man and the world. Rather, He is a self-developing God in the process of coming to Himself. He absolves all the negatives of history by absorbing them into the good. In this way He arrives at the unity of finite and infinite. See W. Gorduun, "Hegelian Themes in Contemporary Theology", *Journal of the Evangelical Theology Society* (22).
- God is Absolute Spirit and, in His final expression, essentially atemporal, the dynamic development leading up to the stage of a God in the process of temporal and historical becoming. Moltmann, who wishes to combat classical theism, uses the insights of Hegel and integrates them into his own thinking. This is why he works with Hegelian ontology in order to liberate his theology from static categories.
- 2 J. Moltmann, 'Die Kategorie Novum in der Christlichen Theologie', *Ernst Bloch zu ehren*, p.242.
- 3 E. Bloch, *Das Prinzip Hoffnung*, p.312.
- 4 *Ibid.*, p.1530.
- 5 J. Moltmann, "Hope and Confidence", p.46.
- 6 E. Bloch, *Das Prinzip Hoffnung*, p.1628.
- 7 J. Moltmann, "Resurrection as Hope", p.136.
- 8 J. Moltmann, "Hope and History", p.379.
- 9 J. Moltmann, *Theology of Hope*, pp.179-180.
- 10 J. Moltmann, *The Future of Creation*, p.15.
- 11 For Bloch, "Reality is not a perfected, a static structure, but it is an historical process, a moving, emerging *front*, from the unfinished past towards a future that is pregnant with possibilities, a genuine newness or novelty" (G. C. Chapman, "Jürgen Moltmann and the Christian Dialogue with Marxism", p.439).
- 12 J. Moltmann, *The Future of Creation*, p.30.
- 13 *Ibid.*, p.16.
- 14 J. Moltmann, *Theology of Hope*, p.227.
- 15 J. Moltmann, *The Experiment Hope*, p.26.
- 16 M. D. Meeks, *The Origin of the Theology of Hope*, p.87.

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- 17 *Ibid.*
- 18 J. Moltmann, *The Future of Creation*, pp.56-57.
- 19 *Ibid.*, p.53.
- 20 His dialectic follows the philosopher Schelling: "Every being can be revealed only in its opposite - love is hatred, unity is strife." (J. Moltmann, *The Future of Creation*, p.78).
- 21 J. Moltmann, *The Experiment Hope*, p.72.
- 22 J. Moltmann, *Religion, Revolution and the Future*, p.138.
- 23 *Ibid.*
- 24 *Ibid.*, p.34.
- 25 J. Moltmann, *The Trinity and the Kingdom of God*, p.49.
- 26 *Ibid.*, p.50.
- 27 *Ibid.*, p.51.
- 28 J. Moltmann, *The Future of Creation*, p.122.
- 29 *Ibid.*
- 30 *Ibid.*, p.123.
- 31 *Ibid.*, p.124.
- 32 J. Moltmann, *The Future of Creation*, p.122.
- 33 J. Moltmann, *The Experiment Hope*, pp.75-76.
- 34 *Ibid.*, p.76.
- 35 J. Moltmann, *The Future of Creation*, p.70.
- 36 J. Moltmann, *The Trinity and the Kingdom of God*, p.60.
- 37 *Ibid.*, p.59.
- 38 *Ibid.*, p.60.
- 39 J. Moltmann, *The Future of Creation*, p.99.
- 40 *Ibid.*, p.103.
- 41 *Ibid.*
- 42 *Ibid.*
- 43 J. Moltmann, *The Crucified God*, p.201.
- 44 J. Moltmann, *The Trinity and the Kingdom of God*, p.99.

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- 45 J. Moltmann, *The Church in the Power of the Spirit*, p.56.
- 46 J. Moltman, *The Crucified God*, p.246.
- 47 R. Olson, "Trinity and Eschatology: The Historical Being of God in Jürgen Moltmann and Wolfhart Pannenberg", p.220.
- 48 J. Moltmann, *The Trinity and the Kingdom of God*, p.151.
- 49 *Ibid.*
- 50 *Ibid.*, p.153.
- 51 R. Olson, "Trinity and Eschatology: The Historical Being of God in Jürgen Moltmann and Wolfhart Pannenberg", pp.220-221.
- 52 J. Moltmann, *The Church in the Power of the Spirit*, p.95.
- 53 J. Moltmann, *The Experiment Hope*, pp.80-81.
- 54 J. Moltmann, *The Crucified God*, p.247.
- 55 *Ibid.*, p.244.
- 56 J. Moltmann, *The Trinity and the Kingdom of God*, p.149.
- 57 *Ibid.*
- 58 *Ibid.*, p.94.
- 59 *Ibid.*, p.95.
- 60 *Ibid.*
- 61 *Ibid.*, p.175.
- 62 *Ibid.*
- 63 J. Moltmann, *God in Creation*, p.98.
- 64 *Ibid.*, p.xii ff.
- 65 *Ibid.*
- 66 *Ibid.*
- 67 J. Moltmann, *The Trinity and the Kingdom of God*, p.19.
- 68 *Ibid.*, pp.19-20.
- 69 J. Moltmann, *God in Creation*, p.98.
- 70 *Ibid.*
- 71 *Ibid.*, p.102.

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- 72 *Ibid.*, p.15.
- 73 *Ibid.*
- 74 J. Moltmann, *The Trinity and the Kingdom of God*, p.175.
- 75 J. Moltmann, *God in Creation*, p.103.
- 76 *Ibid.*, p.17.
- 77 *Ibid.*, p.203.
- 78 *Ibid.*, p.100.
- 79 *Ibid.*
- 80 *Ibid.*
- 81 *Ibid.*
- 82 *Ibid.*, p.74.
- 83 J. Moltmann, *The Trinity and the Kingdom of God*, p.107.
- 84 J. Moltmann, *God in Creation*, p.83.
- 85 This idea is essential to the doctrine of the *Shekinah*. Moltmann is unable to conceive of creation as an experience of God's omnipotence. God had to empty Himself to create. (See: *God in Creation*, p.88). For God not to create would be evil, since creation means a communication of himself. Love, which is the essential nature of God, "... is a self-evident, unquestionable 'overflowing of goodness' which is therefore *never open to choice at any time*." (*The Trinity and the Kingdom of God*, p.55).
- 86 J. Moltmann, *The Trinity and the Kingdom of God*, p.167.
- 87 J. Moltmann, "Creation and Redemption", p.124.
- 88 J. Moltmann, *God in Creation*, p.201.
- 89 J. McPherson "Life, the Universe and Everything: Jürgen Moltmann's 'God in Creation'", p.43.
- 90 J. Moltmann, *God in Creation*, p.202.
- 91 *Ibid.*
- 92 *Ibid.*
- 93 *Ibid.*, p.205.
- 94 *Ibid.*
- 95 *Ibid.*, p.206. This thought is well summarized by Moltmann: "It is therefore impossible to

- think of this world-transcendence of God unless we think simultaneously of this world-immanence; and it is equally impossible to think of God's evolutive immanence in the world without his self-transcendence".
- 96 As was mentioned in Chapter Two, Moltmann has a "tripartite" concept of creation: *Creatio originalis*, *creatio continua*, *creatio nova* (See *God in Creation*, p.208). *Creatio continua* is both a preservation of the world created and a preparation for its completion and perfecting through the openness of creative suffering (*Ibid.*, p.210).
- 97 J. Moltmann, "Creation and Redemption", p.129.
- 98 *Ibid.*, p.130.
- 99 J. Moltmann, *God in Creation*, p.214.
- 100 *Ibid.*, p.213.
- 101 J. Moltmann, "Creation and Redemption", pp.124-125.
- 102 J. Moltmann, *The Crucified God*, p.337.
- 103 *Ibid.*, pp.337-338.
- 104 M. D. Meeks, *The Origin of the Theology of Hope*, p.144.
- 105 J. Moltmann, "Hope and History", p.372.
- 106 "If it is the quintessence of doxology, then the doctrine of the immanent Trinity is part of eschatology as well. The economic Trinity completes and perfects itself to immanent Trinity when the history and experience of salvation are completed and perfected. When everything is 'in God' and 'God is all in all', then the economic Trinity is raised into and transcended in the immanent Trinity". (J. Moltmann, *The Trinity and the Kingdom of God*, p.161).
- 107 J. Moltmann, "Hope and History", p.376.
- 108 J. Moltmann, "The Trinitarian History of God", p.642.
- 109 J. Moltmann, *The Future of Creation*, p.103.
- 110 *Ibid.*, p.98.
- 111 *Ibid.*, p.99.
- 112 J. Moltmann, *The Crucified God*, pp.329-335.
- 113 J. Moltmann, *The Future of Creation*, p.122.
- 114 M. Douglas Meeks, *Origin of the Theology of Hope*, p.124.
- 115 J. Moltmann, *The Future of Creation*, p.121-122.
- 116 J. Moltmann, *The Experiment Hope*, p.187.

Moltmann states: "Hope is an experiment with God, with oneself, and with history... [It] must therefore be sufficiently comprehensive and profound. It must encompass happiness and pain, love and mourning, life and death if it is not to lead us into illusions... . Hope liberates the experiment of life from prejudgements and securities and opens it up for the experience of living and dying" (J. Moltmann, *The Experiment Hope*, pp.187-188).

117 *Ibid.*, p.189.

118 J. Moltmann, *The Future of Creation*, p.120.

119 As an historical being man is unfinished "the essence of mankind is hidden and has not yet appeared... 'mankind' - the realized generic concept - is becoming, is still in process, has not yet acquired a fixed 'nature'" (J. Moltmann, *Hope and Planning*, p.80).

However, we can know man in his present inhumanity. In the present dispensation he is un-man (*un-mensch*) but his identity lies in God's future. He is bipolar in the sense that he is both a creature of God in solidarity with the natural world and an 'image of God', in representing God in his creation. This latter eschatological dimension is the promise and foretaste of his eschatological identity. Thus, in his bipolar existence, man suffers and yet prefigures his eschatological destiny. (See: G. C. Chapman, "Moltmann's Vision of Man", pp.310-330).

120 J. Moltmann, *On Human Dignity*, p.102-103.

121 J. Moltmann, *The Crucified God*, pp.291-294.

122 J. Moltmann, *The Future of Creation*, p.98.

123 *Ibid.*, p.101.

124 J. Moltmann, *The Crucified God*, pp.329-332.

125 M. D. Meeks, *Origin of the Theology of Hope*, p.142.

126 J. Moltmann, *The Experiment Hope*, p.103.

127 *Ibid.*, p. 105.

128 *Ibid.*, pp.114-115.

129 J. Moltmann, *Religion, Revolution and the Future*, p.55.

130 J. Moltmann, *The Experiment Hope*, p.176.

131 J. Moltmann, *The Crucified God*, pp.332-338.

132 J. Moltmann, *Theology of Hope*, p.288.

133 *Ibid.*

134 *Ibid.*, p.290.

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- 135 *Ibid.*, p.329.
- 136 *Ibid.*, p.324.
- 137 Two symbols of openness in the kingdom of liberation are “play” and “open fellowship”. Play is a symbol, not of doing and becoming, but of *being*, and as such is a sign of man’s end. Play is what men do when they are free. However, Moltmann insists on the dialectical nature of play. “If on earth everything turns into play, nothing will be play” (*Theology of Play*, p.112). The world itself still grows in pain and cannot be all gain “until the dead rise and all begin to dance because everything has become new” (*Ibid.*). Christian fellowship is inclusive; it breaks through the exclusive circles of modern friendship to be a sign of the messianic age. (See J. Moltmann, *The Open Church*, pp.60-62).
- 138 J. Moltmann, *On Human Dignity*, p.111.

CHAPTER 4

POPPER'S PHILOSOPHY OF SCIENCE

4.1. CRITICAL RATIONALISM AS THE SCIENTIFIC METHOD

Central to Popper's thought is that "truth is not manifest"¹ for it has a quality of elusiveness and uncertainty about it. Thus he rejects any idea of ultimate or final explanation;² every explanation is in need of further explanation.³ Throughout his work he thus rejects the notion of "essentialism"⁴ which asks "What is?" questions⁵ such as "What is matter?" or 'What is force?' or 'What is justice?'.⁶ These questions aim to reveal the real or essential meaning of these terms and thus the true and essential nature behind them.

Popper's fallibilism⁷ sees truth, rather, as tentative, uncertain and provisional. He states that "though there are no general criteria by which we can recognise truth - except perhaps tautological truth - there are something like criteria of progress towards the truth ...".⁸ In fact Popper relies on the notion of truth as a "regulative principle".⁹ Though it is not something which has a fixed form or limits, or can ever be known in its totality, truth has the qualities of realism and objectivity. Thus Popper states:

... science, does embody objective knowledge (of a hypothetical character) although of course it *does not embody knowledge that is certain* (which means that we cannot claim to *know* in the sense of certain rational belief). Nevertheless we can claim that in deciding to refer one thing to another... we proceed in a perfectly rational way - in the way of the searcher for truth, though not in the way of the possessor of truth.¹⁰

According to Popper the truth of a statement is related to the correspondence theory rehabilitated by Taski.¹¹ Truth is correspondence to the facts and requires that a correspondence theory be formulated in a metalanguage.¹² Logically this can be expressed thus: "p" corresponds to the facts if and only if "p".¹³ Popper could logically use such a theory to define reality in its relationship to true statements. Thus Popper proposes:

For example, we may distinguish *real facts*, that is (alleged) facts that are real, from (*alleged*) facts that are not real (that is, from non-facts). Or to put it more explicitly, we can say that an alleged fact, such as the moon's consisting of green cheese, is a real fact if and only if the statement which describes it - in this case the statement 'The moon is made of green cheese' - is *true*; otherwise the alleged fact is not a real fact (or, if you prefer to say so, it is not a fact at all).¹⁴

With the above theory Popper retains the idea of absolute and objective truth as a regulative idea or a standard by which we fall short. Truth thus becomes a standard of criticism but, as Popper reminds us, "truth is often hard to come by, and once found it may easily be lost again."¹⁵ Science, however, remains a search for objective information and truth.

Popper thus regards the idea of *episteme* or absolute knowledge as an obstacle to the acquisition of human knowledge, for the ideal of absolute knowledge leads to scepticism or dogmatism,¹⁶ both enemies of truth. The search for truth requires an attitude of rationality and, for Popper, "There is no better synonym for 'rational' than 'critical'"¹⁷. Rationality, for Popper, is "an attitude of readiness to listen to critical arguments and to learn from experience".¹⁸ Thus to be rational entails being open to the viewpoint of others; being open to what is other. As will become more evident later, Popper stresses the fact that "the link between rationalism and humanitarianism is very close".¹⁹ In summary it may be said that to know rationally presupposes a capacity to choose, in the face of criticism, either to maintain or to abandon belief.

Thus critical rationalism rejects any epistemological authority equated with a divine

authority which then becomes the source of all knowledge.²⁰ Both classical rationalism and classical empiricism, Popper maintains, thought in terms of authority, much though they wished to reject it. They appealed respectively to the authority of the intellect or the authority of the senses.²¹ Both wished to be possessors of absolute, certain authority.

Popper's critical rationalism abandons all attempts at justification, seeing criticism as an alternative to justification. The central problem in epistemology had been the justification of theories and beliefs. Popper asserts that we cannot give any positive justification or positive reasons for our theories and beliefs.²² However, we are able to prefer one theory to another on the grounds that it has withstood criticism better than the other.

In Realism and the Aim of Science Popper states:

Critical reasons do not justify a theory, for the fact that one theory has so far withstood criticism better than another is no reason whatever for supposing that it is actually true... . Such critical reasons do not of course, prove that our preference is more than conjectural... . For my proposed solution to the new problem is compatible with the view that our knowledge - our conjectural knowledge - may grow; and that it may do so by the use of reason: of critical argument... .²³

It is evident that Popper argues strongly against a commonsense theory of knowledge which takes knowledge to be a special kind of belief, namely justified belief. Popper's contention is that all knowledge is "conjectural".²⁴ This means that growth in scientific knowledge is a system of "conjectures and refutations", of critical "trial and error", of progressing from problem to problem: "problems of ever-increasing depth and an ever increasing fertility in suggesting new problems".²⁵ Thus, by the method of critical rationalism, knowledge grows by evolution and adaptation in terms of the method of conjectures (bold untested theories) and refutations (selective retention). In summary it may be said that at its core Popper's methodology is a model of successful rational problem-solving, that is, conjectures interacting with criticism in the form of severe testing.

In the next section Popper's critical method is further elaborated in his rejection of induction - verification as a scientific method and its replacement by deduction - falsification.

4.2. FALSIFICATION VERSUS INDUCTION

For Popper the mark of a scientific (empirical) statement is that it is capable of being tested by experience.²⁶ This means that scientific theories are tested by exposing them to the struggle for survival in order to select the fittest. "Falsification" is the criterion of demarcation between scientific and non-scientific or metaphysical theories.²⁷ Accordingly it must be possible for an empirical statement to be tested by experience and refuted if it fails. Popper expresses this notion succinctly:

I propose the following definition. A theory is called 'empirical' or 'falsifiable' if it divides the class of all possible basic statements unambiguously into the following two non-empty sub-classes. First, the class of all basic statements with which it is inconsistent (or which it rules out, or prohibits). We call this the class of *potential falsifiers* of the theory; secondly, the class of those basic statements which it does not contradict (or which it 'permits'). We shall put this more simply by saying that a theory is falsifiable if the class of its potential falsifiers is not empty ...²⁸

In a further elaboration Popper states that any empirical system should first be consistent. This means, as stated above, that all possible statements may be divided into two classes: those which contradict the system and those which support the system. Secondly, the system must be falsifiable. Both conditions enable a differentiation within the totality of all possible statements. This makes the system "scientific"²⁹ in that any theory is testable and potentially "real". In addition, Popper states that the uncertainty of the theory, arising from its hypothetical or conjectural character, does not diminish its potential to describe some aspect of reality. Indeed, potential falsifiers may clash with reality.³⁰ Therefore Popper can state:

But some of these theories of ours can clash with reality; and, when they do, we know that there is a reality; that there is something to remind us of the fact that our ideas may be mistaken. And this is why the realist is right.³¹

According to the above view a system may only be considered scientific if its assertion may clash with reality.

Popper regards the problem of demarcation between science and non-science (including logic, metaphysics, and pseudo-science) as fundamental to intellectual development.³²

He proposes the following criterion of demarcation:

This, then, is roughly the methodological form ... of demarcation. Propose theories which can be criticized. Think about possible decisive falsifying experiments - crucial experiments. But do not give up your theories too easily - not at any rate, before you have critically examined your criticism.³³

For Popper, unlike the Positivists,³⁴ non-scientific or metaphysical statements are not without meaning. He admits that some metaphysical ideas have obstructed the growth of science, but others (e.g. speculative atoms) have aided science.³⁵ In his essay *Back to the Presocratics* he comments as follows on their "metaphysical ideas":

Here we find bold and fascinating ideas, some of which are strange and even staggering anticipations of modern results, while many others are wide of the mark, from our modern point of view, but most of them, and the best of them, have nothing to do with observation.³⁶

Attention will now be turned to the problem of induction and verification which reaches to the heart of Popper's scientific method. In the *Logic of Scientific Discovery*³⁷ Popper argues that universal laws cannot be logically deduced from the observance of particulars.³⁸ He relies heavily on Hume's "Two Problems of Induction" (a logical problem and a psychological problem).

Hume had pointed out that no number of singular observation statements could logically justify a general statement.³⁹ T.E. Burke expresses the problem in this way:

... a systematic or organized body of knowledge about the world can be developed only by the use of such observation of particulars. But such observations, however assiduously collected and recorded, cannot by themselves furnish *logically* adequate grounds for predictions about

future states of the world, or for unrestricted generalizations... . Hence in so far as it puts forward such predictions and generalisations, despite its reputation as a paradigm example of logical thinking - cannot characteristically claim more than it is logically entitled to claim⁴⁰

Hume's psychological problem⁴¹ proposes that reasonable people expect and believe that the future will be like the past so that instances of which they have no experience will conform to those which they have already experienced. Hume believes that this is so because of conditioning and repetition. Expressed differently, he believes that induction justifies itself in practice.

Popper believes that Hume's psychological theory is wrong because observers are not passive but active, and impose order on observation.⁴² Moreover, Popper transfers the logical solution to the psychological level: the truth of logic is the truth of psychology.

Hume's "negative" problem of induction leads Popper to develop his own epistemological theory.⁴³ Scientific or theoretical knowledge can never be justified; it remains forever conjectural. There is no certain knowledge. However, preference for competing theories can be rational: firstly, some can be more informative and bolder; secondly, some can stand up better to severe tests.⁴⁴

At the root of the problem of induction is how we gain theoretical knowledge from experience. Popper answers negatively - experience can never validate or justify our hypotheses;⁴⁵ it can merely facilitate choice between competing theories. Therefore Popper concludes: "Induction, i.e. inference based on observation, is a myth. It is neither a psychological fact; nor a fact of ordinary life, nor one of scientific procedure".⁴⁶

With what do we replace induction? Simply, with the deductive testing of theories. In his *Logic of Scientific Discovery* Popper outlines four procedures for testing a theory: logical testing of internal consistency; logical determination of the type of theory, for

example, empirical, scientific or tautological; comparison with other theories (survival test) and finally a test of the empirical application of the theory.⁴⁷ It should be noted again that theories are never verifiable by experience. It is only possible for an empirical scientific statement to be falsified or refuted by experience.

Scientific theories have a logical form of universal laws applicable to particular phenomena. With the aid of initial conditions we *deduce* from our universal theories predictions concerning the future behaviour of the phenomenon under investigation.⁴⁸ Further we need "basic statements" to decide whether a statement may be "falsifiable". Popper defines basic statements as follows: "basic statements are therefore - in the natural mode of speech - statements asserting that an observable event is occurring in a certain individual region of space and time."⁴⁹ These basic statements might be called "conventions"⁵⁰ because they are accepted as a result of agreement and we can desist from subjecting them to further tests. This convention, however, concerns only singular empirical statements and not universal theories. According to Popper, the question of basic statements establishes:

...a fundamental logical asymmetry between empirical falsification and verification...a set of singular observation statements ('basic statements', as I called them) may at times falsify or refute a universal law; but it cannot possibly verify a law, in the sense of establishing it. Precisely the same fact may be expressed by saying that it can verify an existential statement...but it cannot falsify it.⁵¹

Expressed differently, a finite set of true basic statements (although only one is necessary) may falsify or refute a universal law, but can under no circumstances verify a universal law. Thus verification (induction) is impossible; only falsification (from deduction) is possible.

No scientific statement can ever be presented as the final unchanging truth. Nor is it possible to verify a theory even if it happens to be true. In the next section a further analysis of Popper's epistemology will follow, embracing concepts such as theory-impregnated knowledge, corroboration and verisimilitude.

4.3. LOGICO-DEDUCTIVE METHOD

The previous section debunked the idea of final, demonstrative knowledge. Knowledge grows by a process of trial and error, of conjecture and refutation leading to a better approximation to the truth, rather than the attainment by verification of certain truth. Conjectural knowledge does not include the ingredient of certainty at all. Indeed, Popper's view is that we learn from experience, from our mistakes, from refuting instances and, most of all, by criticism. Truth is not fixed and finished, but rather an unending search.

Induction gets the stages of knowledge acquisition in the wrong order. It proposes that observation comes first and that the mind is a *tabula rasa*. Such pure observation, for Popper, is both psychologically and logically impossible and at variance with the very nature of observation.⁵² Popper criticizes the *tabula rasa* theory of the mind naming it the "bucket theory of the mind":

Our mind is a bucket which is originally empty, or more or less so, and into this bucket material enters through our senses ... all *experience* consists of information received through our senses Among the many things which are wrong with the bucket theory of the mind are the following:

- (1) Knowledge is conceived of as consisting of things, of thing-like entities in our bucket (such as ideas, impressions, sense-data ...)
- (2) Knowledge is, first of all, *in us*: it consists of information which has reached us, and which we have managed to absorb.
- (3) There is *immediate* or *direct* knowledge ...
- (3a) All error, all mistaken knowledge ... comes from bad intellectual digestion which adulterates these ultimate or "given" elements of information by misinterpreting them ...⁵³

The above common sense theory of knowledge is for Popper radically mistaken for it fails to see the distinction between knowledge in the subjective sense (dispositions and expectations) and knowledge in the objective sense (linguistically formulated information available for criticism). It is not therefore knowledge in the objective sense.⁵⁴ According to Popper the belief that we start with pure observation unaided by a theory is

nonsensical. "Observation is always selective. It needs a chosen object, a definite task, an interest, a point of view, a problem".⁵⁵ Popper further insists that we start our conscious lives with certain primitive interests and expectations, and enlarge or develop these in response to whether they are realized or thwarted.⁵⁶ Popper in fact sees our whole intellectual development as a constant process of the modification of our theories and expectations under the pressure of experience.⁵⁷ Popper's epistemology owes much to Kant. Kant asserts that there are synthetic, *a priori* judgments which perform a dual function: they both give knowledge about the world and are universally valid. He thus assumes the existence in human consciousness of innate ideas to which natural phenomena must conform.⁵⁸ He accepts (like Hume) that experience cannot reveal to us any necessary laws, but such laws as are set within experience.⁵⁹

Jeremy Naydler correctly expresses Popper's Kantian position as follows:

The conception that Popper is led to advocate is thus one which is a kind of hybrid between the Humean and Kantian approaches. To overcome the Humean problem of induction Popper insists, with Kant, that the world of experience is our creation; but to avoid the metaphysical problem of Kantianism, he maintains, that our scientific theories can never have the necessity of a prior validity - they are, at best, conjectures.⁶⁰

The Kantian influence confirms Popper's belief that human beings are not passive recipients of knowledge, allowing nature to impress order and regularity upon us. Rather, we impress the laws of our intellect upon nature.⁶¹ Thus we have the "activist" or "searchlight" theory of knowledge.⁶² We cannot do without a pre-existing framework of theories. These, even if only implicit, create expectations and often result in disappointment. All knowledge is thus theory-impregnated and conjectural in nature, for even our organs are theory-impregnated and open to error. As a consequence, knowledge must be criticized and corrected (hence "searchlight theory").⁶³ Closely related and allied to "theory" or "conjecture" as a starting point for rational knowledge is the concept of tradition. Popper expresses the idea thus:

This means that we pick up, and try to continue, a line of enquiry which has the whole background of the earlier development of science behind it; you fall in with the tradition of science. It is a very simple and decisive point, but nevertheless one that is not sufficiently realized by rationalists - that we cannot start afresh; that we make use of what people

before us have done in science.⁶⁴

The function of observation, as seen earlier, is not to produce theories. Rather observation challenges us to make new and better theories which can stand up to rigorous testing in the light of the problem situation of the day. We cannot ever free ourselves from the so-called restriction of a tradition. We cannot start from scratch. Tradition is a starting point which we critically accept.

We can speak of the growth of objective knowledge. This involves the repeated overthrow of scientific theories and their replacement by better ones. As Popper expresses it: "Science should be visualized as *progressing from problems to problems* - to problems of ever increasing depth".⁶⁵ In order to facilitate this aim Popper says that science should concentrate on theories which have a high degree of falsifiability. Those which are incorrect are most likely to be eliminated and those which may be true will survive their tests.⁶⁶ The question arises whether some theories are better than others and may thus be tentatively accepted. A "better" theory will have to succeed both where its refuted predecessor succeeded and where its predecessor failed. Success on these two levels will qualify the new theory as "more successful" or better.⁶⁷ Expressed differently, the new theory would have a better degree of "corroboration" than its predecessor. Corroboration is a non-inductive measure to assess how well the theory has stood up to tests. It does not add to the probability of the universal theory; it means simply that the theory has not yet been falsified. A "high" degree of corroboration means that a high content of the theory or hypothesis has survived severe tests. These tests must involve a conscientious series of counter instances.⁶⁸ Popper expresses the notion in the following manner: "The degree of corroboration of a theory is an evaluation of the results of empirical tests it has undergone".⁶⁹ Indeed, the degree of corroboration of an hypothesis or theory will increase the more severe tests it passes.⁷⁰

Popper introduces an allied notion, that of the verisimilitude of theories, which allows us to speak of some theories as being nearer to the truth than others.⁷¹ This means that

one theory - even though false - might be preferable to its competitors in being nearer to truth. Popper combines two logical notions introduced by Taski (p.95): the notion of truth and the notion of the (logical) content of a statement⁷² (i.e. the class of all statements logically entailed by it). He defines verisimilitude as follows: "... the verisimilitude of a statement will be explained as *increasing with its truth content* and *decreasing with its falsity content*".⁷³ Popper would prefer to see verisimilitude, rather than truth, as the aim of science, for it is a more realistic aim. It suggests that we make progress towards the truth.⁷⁴ Popper sees three requirements for the growth of knowledge:

The new theory should proceed from some *simple, new and powerful, unifying idea* about some connection or relation ... between hitherto unconnected things ... or facts ... or new "theoretical entities" (such as field and particles) Secondly, we require that the theory will be *independently testable* ... it must lead to the prediction of phenomena which have not so far been observed We require that they shall pass some new, and severe tests The third requirement, on the other hand, can be found to be fulfilled, or not fulfilled, only by testing the new theory empirically.⁷⁵

It is clear that, according to Popper, the primary aim of science is to discover objective truth. Indeed, as noted by O'Hear, "Popper remains an objectivist, an implacable opponent of relativism and irrationalism".⁷⁶ However, O'Hear questions Popper's "objectivity" for it remains impossible on any level to get out of a theoretical structure to true reality.⁷⁷ Nevertheless, as Popper notes, "I do not know... I can only guess. But I can examine my guess critically and, if it withstands criticism, then this fact may be taken as a good reason in favour of it".⁷⁸ Thus Popper's position is totally objective. A statement is true whether anyone believes it or not. Moreover, a theory may be closer to the facts than any of its competitors whether anyone believes it or not.⁷⁹ Objectivity is there - *outside* man - but it cannot be known with certainty.

In the next section the objective and evolutionary nature of knowledge will be investigated in depth. Knowledge grows, but it starts with animal knowledge.

4.4. OBJECTIVE EVOLUTIONARY KNOWLEDGE

Popper's position is clear: insistence upon absolute or objective standards and equal insistence upon our fallibility in trying to achieve these standards. He calls this position "fallibilistic absolutism".⁸⁰ Musgrave notes:

The central point of Popper's fallibilistic absolutism is to reject the affirmative answer to these questions which are presupposed by both dogmatists and sceptics. Popper agrees with the sceptic against the dogmatist, that we cannot infallibly know objective or absolute truth - but he agrees with the dogmatist against the sceptic that the notion of objective or absolute truth plays an important role as a regulative standard...⁸¹

Popper sees that scientific knowledge is so real, so far reaching that it is impossible to "know" in the traditional sense. As noted earlier (p.101), knowledge has objective and subjective dimensions, but the latter has far greater importance. Popper notes that traditional epistemology neglects the distinction between the knowing subject and his objective knowledge thus making it irrelevant for a proper study of scientific knowledge.⁸² In the next section we shall see that in order to avoid subjectivism the objective dimension of knowledge must be autonomous.⁸³

Popper's objectivist epistemology is coterminous with a theory of evolution. He is a convinced Darwinian. In his *Poverty of Historicism*, in what he calls the "logic of situations", he postulates the evolutionary idea that a theory or action is a response to a problem being confronted.⁸⁴ Problem-solving is thus to be seen in Darwinian terms: in response to a problem an hypothesis is thrown up which is subject to environmental pressure. This pressure leads either to its rejection, its modification or its acceptance⁸⁵ (only if not confronted by a problem it cannot solve). Popper notes:

...the growth of our knowledge is the result of a process closely resembling what Darwin called 'natural selection'; that is, the *natural selection of hypotheses*... . From the amoeba to Einstein, the growth of knowledge is always the same: we try to solve our problems, and to obtain, by a process of elimination, something approaching adequacy in our tentative solutions.⁸⁶

The main difference between the problem of organisms and humans is that the former are almost all directly and immediately concerned with the question of survival.⁸⁷ Because of their linguistic formulations human solutions are open to criticism and consequent modification. As Popper so aptly expresses it, the critical method enables our theories to die instead of ourselves.⁸⁸ Consequently he shows how our human problems obey the same laws as those involved in evolutionary change. Human change, however, is discontinuous with nature. Thus Popper comments:

What is so notable about human knowledge is that it has gone so far beyond all animal knowledge, and that it is still growing. The main task of the theory of human knowledge is to understand it as continuous with animal knowledge; and to understand also its discontinuity...from animal knowledge.⁸⁹

There are new developments within living organisms. Animal evolution involves largely the modification of, or emergence of, new organs which affect behaviour. Human evolution, on the other hand, proceeds largely by development outside the person or behaviour, that is, in the making of tools, weapons etc.⁹⁰ However, the most important development, for Popper, was the emergence of language: "the evolution of languages from animal languages to human languages".⁹¹

Popper sees four functions of language which he divides into the lower functions which we share with animals and the higher functions peculiar to humans, which evolve from the lower functions.⁹² The lower functions of language are the symptomatic or expressive function (expression of the state of the organism) and the releasing or signalling function (a response to the sender's expression). Human language has developed the two higher functions: the descriptive and the argumentative (the lower functions are always present with the higher). The descriptive function may be either true or false. The argumentative function involves critical discussion and played a major role in the evolution of reasoning and rationality.⁹³ In his influential essay "Of Clouds and Clocks" Popper writes:

Like the other functions, the art of critical argument has developed by the method of trial and error-elimination, and it has had the most

decisive influence on the human ability to think rationally... . Like the descriptive use of language, the argumentative use has led to the evolution of ideal standards of control, or of 'regulative ideas'... and that of the argumentative use of language in critical discussion, is *validity* (as distinct from *invalidity*).⁹⁴

The argumentative function of language is an essential prerequisite for the emergence of "pure knowledge" (fundamental research as Popper calls it⁹⁵) which displays a tendency towards integrated unified theories as distinct from the growth of "applied knowledge" (the evolution of human organisms, human artifacts) where different and specialized applications result.⁹⁶

The earlier Popper had compared tentative solutions to problems with anatomical and genetic changes in animal species in response to environmental problems: "My view may be expressed by saying that every discovery contains 'an irrational element' or 'creative intuition' in Bergson's sense".⁹⁷ Later he qualifies his analogy by suggesting that the theorist's imagination is blind rather than random. He searches actively and even creatively, although in the dark, for something he believes is there.⁹⁸ For Popper, living things are problem-solving organisms. Their expectations and, indeed, their structures are the result of solutions to previous problems. This means that new problems are bound up with old solutions. Popper expresses the idea thus: "Organic structure and problems arise together. Or in other words organic structures are theory-incorporating as well as problem-solving structures".⁹⁹

In view of the above analysis, perception is a decoding process and humans do not have access to untheoretical data. As mentioned in the previous section, perception is always complex since our sense organs are theory-laden.¹⁰⁰ Problems of knowledge never start from scratch. The growth of knowledge is a progress from problem to problem and to problems of ever-increasing depth. Popper suggests the following schema as a description of the growth of theories:

$$P1 \rightarrow TT \rightarrow EE \rightarrow P2$$

"P" represents a problem; "TT" is tentative theory and "EE" stands for (attempted)

error-elimination involving critical discussion. P2 is a problem of greater depth.¹⁰¹

Popper comments on the schema: "I like to sum up this schema by saying that *science begins with problems, and ends with problems*".¹⁰²

In summary, Popper sees all living processes as epistemological or problem-solving. Both animal (organic) and human problem-solving seem to proceed by a trial and error method which develops independently of the environment, yet is available to the demands of the environment. Popper's evolutionary epistemology suggests a universe that is inventive and creative. Indeed, it is a universe in which new things emerge.

The next section will move from evolutionary epistemology to a yet deeper concept, that of Popper's "three worlds" theory. The physical world begets the conscious world which in turn begets the third world of the products of the human mind.

4.5. POPPER'S THREE WORLDS

As seen in the previous section Popper's evolutionary epistemology is in reality an epistemology of natural selection. It entails, in effect, an abandonment of any approach which starts from sense-data or the given. All knowledge is fallible or conjectural; nothing is given to us by our senses; everything is interpreted and decoded. Scientific growth occurs when such tentative theories are severely tested and either retained or overthrown. Do objective phenomena such as theories, standards and values have a real existence outside of our minds? Are they thus irreducible to physical objects?

Popper's "World 3" theory may be seen as a complement to his stress on the objective, impersonal and evolutionary character of human knowledge. Any object of the human intellect can be said to inhabit World 3. Popper draws an analogy between World 3

products and the exosomatic products of animals such as spiders' webs and beavers' dens. These have an objective existence apart from spiders and beavers; likewise, human products of our activity exist autonomously, awaiting discovery by us.¹⁰³ These World 3 products, as Popper names them, have what he terms an "ontological status"¹⁰⁴. This means that although they originate in linguistic formulation, these World 3 products contain problems no one has yet solved or may ever solve. Popper expresses the concept thus:

We can thus say that there is a kind of Platonic ... third world of books in themselves, theories in themselves, products in themselves, problem situations in themselves, arguments in themselves and so on. And I assert that even though this third world is a human product, there are many theories in themselves and arguments in themselves and problem situations in themselves which have never been produced or understood and may never be produced or understood by men.¹⁰⁵

In this sense we could say that the third world transcends us. Popper has distinguished three different worlds. World 1 is the world of physical objects and states, World 2 is that of states of consciousness or mental states while World 3,¹⁰⁶ as seen above, is the World of objective (mostly linguistically formulated) content of thought.¹⁰⁷

Each world is irreducible to the other, but there are causal relationships between the three worlds. World 3 is separate from World 2 (the world of mental thought), and can not only have an effect on World 2 but through World 2 on World 1. At the same time World 3 objects have their own logic of development which is irreducible to either World 1 or World 2. Popper expresses the relationship thus:

Thus the mind may be linked with objects of both the first and the third world. By these links the mind establishes an *indirect* link between the first and the third world. This is of the utmost importance. It cannot be seriously denied that the third world of mathematics and scientific theories exerts an enormous influence upon the first world. It does so, for instance, through the intervention by technologists who effect changes in the first world by applying certain consequences of these theories ...¹⁰⁸

Thus the transcendent third world challenges us, stimulates us and, through its influence

on us, affects World 1 as well. The point is that, although we ourselves create World 3 objects they are not under our control. They have unexpected and unavoidable consequences. If the third-World transcends us, where then does it exist? Popper states in *The Self and its Brain*:

... the World 3 object is a real ideal object which exists, but exists nowhere, and whose existence is somehow the potentiality of its being re-interpreted by human minds In a sense World 3 is a kind of Platonic World of ideas, a World which exists nowhere, but which does have an existence and which does interact, especially with human minds ...¹⁰⁹

Popper suggests that Plato was the discoverer of the third world.¹¹⁰ He makes three remarks concerning Plato's world and his own, two of these being critical. Firstly, Plato not only discovered World 3 but also discovered the feedback of World 3 upon ourselves. Secondly, Plato's world was divine, eternal and true; Popper's is man-made and evolves autonomously. Its theories may equally well be false as true. Thirdly, Plato's World of forms provided ultimate explanations; Popper's world is a world of theories that are conjectural, hypothetical and tentative, sometimes moving towards truth likeness.¹¹¹

In Popper's most recent publication *The Self and its Brain* (1977) he turns his attention to how we "grasp" or "see" World 3 objects. He suggests that it is easier to understand how we manufacture World 3 objects than to understand how we "see" them.¹¹² The grasping of a World 3 object is an active process¹¹³ not a direct vision or contemplation. It involves, as Popper expresses it,

... sensing of open problems, even of problems not yet formulated... to think, to examine the existing theories; to discover a vaguely suspected problem, and to produce theories which we hope will solve it... . But the not yet explored logical relationship between existing theories may also play a role ...¹¹⁴

The interaction between World 3 and World 2 has formed an important part of this section. In the next section attention will focus on the mind-body problem (of the interaction between World 1 and World 2). The emergence and growth of

consciousness, as well as the interaction of body and mind will be important concepts in the treatment of the topic.

4.6. THE BODY-MIND PROBLEM: INTERACTION

The emergence of World 3 can be partly explained as a result of Darwin's natural selection. Popper's position is that mental processes and consciousness are the products of evolution by natural selection.¹¹⁵ He believes that the growth of human language from animal language stimulated the growth of human self-consciousness.¹¹⁶ Moreover, as seen earlier, (pp.105-107) World 3 itself had its beginning in the development of language, for language led to criticism.¹¹⁷ In Dialogue III with Sir John Eccles (*The Self and its Brain* Part III) Popper links linguistic development more directly to the evolution of mental processes: "So I conjecture that the very beginnings of language were probably connected with the not yet enlarged brain; but that language led very soon to an increase in the size of the brain...".¹¹⁸ Eccles in the same Dialogue replies:

[I believe that]... this growth did not arise spontaneously in some kind of unusual manner, but that it arose in response to the needs, the demanding needs, of the linguistic developments and all of the associated creative aspects required in discursive thought,...¹¹⁹

a reply with which Popper concurs.

As his theories deepen and develop, Popper distinguishes two kinds of behavioural programmes which Mayr¹²⁰ had termed "closed behavioural programmes" and "open behavioural programmes".¹²¹ Closed behavioural programmes prescribe animal behaviour to a marked degree, whereas open behavioural programmes allow for alternatives and choices even though the organism may determine the choice in some way. Open progress evolves by natural selection due to competing environmental pressures. Popper sees the emergence of consciousness in the choices allowed us in open behavioural progress (primitive consciousness is found in animals; self-

consciousness is a human development).¹²² He allows four stages in the emergence of consciousness: some organisms adopt alternative behaviour patterns in the face of danger or pain and so survive; some more developed organisms plan a movement in some way before its execution; at a third stage conscious or purposeful animal aims such as hunting evolve and rudimentary trial-and-error behaviour begins. Finally, with the evolution of language as the product of World 3 we have reached human consciousness: our hypotheses may be viewed objectively and critically.¹²³ Popper expresses the final step thus: "... consciousness will assume evolutionary significance - and increasing significance - when it begins to anticipate possible ways of reacting, possible trial-and-error novelties and their possible outcomes".¹²⁴

Mental states are closely related to the state of the body especially to physiological states, but through consciousness they begin to transcend them. Although Popper opts for a Cartesian "self",¹²⁵ a body-mind dualism, he distances himself from the overconcern with the relationship between states of consciousness and the body:¹²⁶ "I propose instead that we regard the human mind first of all as an organ that produces objects of the human third world and interacts with them."¹²⁷ Popper postulates that a self-conscious mind emerges as a product of the human brain, transcends it and then actively directs the brain processes. He thus sees the self-conscious mind as something totally different from the physical system with which it interacts.¹²⁸ He explains this interaction as follows:

I intend to suggest that the brain is owned by the self, rather than the other way round. The self is almost always active The active, psycho-physical self is the active programmer to the brain ... ; it is the executant whose instrument is the brain. The mind is, as Plato said, the pilot ... the self ... is incredibly richer.¹²⁹

Popper explains that the self-conscious mind or the self has a moral personality of its own, partly arising from past actions.¹³⁰ Thus the brain is partially formed by the self and is in some sense a product of the mind. Although the self-conscious mind has some relationship with the brain, it is not passive but active in that it searches and modifies

the neuronal operations.¹³¹

Interaction between body and mind is not to be understood in terms of a theory of causation (cf. the Cartesian theory of causation) dependent on various forms of parallelism (see note 127). Popper notes: "Thus both the theory of causality in the physical World 1 and the theory of causality in the psychological World 2 on which parallelisms are based are completely unacceptable today."¹³² Taking his cue from Physics he mentions a plurality of different types of causes (such as forces of which there are least four different types).¹³³ Popper rejects the Cartesian interacting *substances*. He prefers to distinguish two interacting *states*, that is, the physio-chemical and the mental states. He suggests, however, that this may be too narrow a view for there is the additional interaction between World 3 and our minds. His intention is that we should be pluralists rather than dualists.¹³⁴

Popper's interactionism rejects "reduction",¹³⁵ but accepts "upward causation"¹³⁶ to a point. While accepting the evolution from lower to higher forms implicit in upward causation, he rejects any suggestion that higher levels cannot act on lower levels, that is, downward causation. Downward causation proposes that higher evolutionary developments can and do control the lower levels from which they have evolved. He shows how tools and machines are designed for this purpose. From a biological perspective, animals may survive the death of many cells, the removal of organs and limbs and yet the death of the animal must involve the death of the constituent parts.¹³⁷ In relating downward causation to the brain he says: "... I think that the self in a sense plays on the brain, as a pianist plays on a piano or as a driver plays on the controls of a car".¹³⁸ Popper thus rejects reductionism, preferring instead to use the words "creative" or "emergent" to explain the evolutionary process. This process can never be understood reductively for in the course of evolution new things emerge with unexpected and indeed unforeseen properties such as the self-conscious mind. Popper explains:

It is something utterly different from anything which, to our knowledge, has previously existed in the world... . From an evolutionary point of view, I regard the self-conscious mind as an emergent property of the brain; emergent in a way similar to that in which World 3 is an emergent property of the mind. World 3 emerges together with the mind, but nevertheless it emerges as a product of the mind, by... interaction with it...¹³⁹

Popper proposes further that the brain has the unique quality of openness. He conjectures that during man's evolutionary development: "We have to propose that the World 1 of certain special areas and related regions of the brain, what I have been calling open modules, is open to influences from World 2".¹⁴⁰ It may be concluded, then, that World 1 is incomplete, that it is influenced by World 2, that it interacts with World 2 and that it is causally open towards World 2 and even further to World 3. Thus Worlds 1, 2 and 3 are not self-contained but "open" to one another and to the creative evolving universe.

In the next section attention moves to the problem of indeterminism and determinism or, as Popper expresses it, "Of Clouds and Clocks." The issue is: do we live in a causally closed universe or in one which is incomplete and open?

4.7. OF CLOUDS AND CLOCKS : THE PROBLEM OF INDETERMINISM AND DETERMINISM

"Clouds" and "Clocks" are metaphors which Popper uses to express, on the one hand, open (and partly closed) indeterminate physical systems and on the other, closed deterministic physical systems. Popper "defines" a physically closed system as:

... a set or system of physical entities, such as atoms or elementary particles or physical forces or fields of forces, which interact with each other - and *only* with each other - in accordance with definite laws of interaction that do not leave any room for interaction with, or interference by, anything outside the closed set or system of physical entities.¹⁴¹

He defines physical indeterminism as: "...the doctrine that *not all* events in the physical universe are predetermined with absolute precision, in all their infinitesimal details".¹⁴²

Popper's metaphors are chosen in order to suggest the need for "something *indeterminate* in character between perfect chance and perfect determinism - something intermediate between perfect clouds and perfect clocks".¹⁴³ He argues that even the most reliable clocks are not fully accurate nor are clouds perfectly indeterminate.¹⁴⁴ Popper thus wishes to avoid the pitfalls of determinism, which would make the world a perfectly running clock, and those of metaphysical indeterminism, which would allow sheer chance to play a major role in the world.¹⁴⁵ Sheer chance cannot be the answer to determinism.

It is for this reason that any argument for the mere probabilistic theories of metaphysical indeterminism is rejected. Popper thus introduces his "propensity theory" to show that statistical theories are objective and real. He states: "Propensities are thus introduced in order to help us explain and predict the statistical properties of certain sequences...".¹⁴⁶ Popper likens propensities to dispositional properties with some similarity to Aristotelian potentialities. Unlike these potentialities, however, they do not inhere in the individual thing, although they are real.¹⁴⁷ He "defines" them as follows:

... they are relational properties of the total objective situation; hidden properties of the situation whose precise dependence on the situation we can only conjecture ... propensities again resemble forces or fields of forces; a Newtonian force is not a property of a thing but a relational property of at least two things... . Force, like, propensity, is a relational concept.¹⁴⁸

Thus a propensity is a tendency inherent in certain physical situations which will realize an event. Propensities are really existing forces that underlie undetermined events. It is this propensity theory which enables Popper to discard determinism without espousing metaphysical indeterminism.

Turning from science to rationalism, it is a truism that rational human behaviour demands that "freedom is not just chance but, rather, the result of a subtle interplay between *something almost random or haphazard*, and *something like a restrictive or selective control*...".¹⁴⁹ A rational Popperian approach would wish to understand how

World 3 objects like theories, intentions and values could play a part in effecting physical change in the environment.¹⁵⁰ This is done by a system of “plastic control”.¹⁵¹ Popper’s four uses of language provide an adequate example. The higher functions of language do not replace the lower, but they establish a plastic control over them. This control involves feedback. Popper expresses the hypothesis as follows:

For the control of ourselves and of our actions by our theories we propose a *plastic* control. We are not *forced* to submit ourselves to the control of our theories for we can discuss them critically, and we can reject them freely if we think that they fall short of our regulative standards. So the control is far from one-sided. Not only do our theories control us, but we can control our theories (and even our standards): there is a kind of *feedback* here.¹⁵²

In the Addendum to *The Open Universe: An Argument for Indeterminism* Popper has an essay entitled “Indeterminism is not Enough: An Afterword”.¹⁵³ Although his overall purpose is to defend indeterminism, he states that indeterminism alone is not enough to make human freedom understandable. More is needed - the causal openness of World 1 towards World 2 and of World 2 towards World 3, and vice versa. He means here that freedom and nature interact. Put differently this means an interaction between the realm of aims, intentions and hypotheses, the mental realm and the physical. The point is that freedom is not chance, but involves what Donald H. Clark calls “deliberate, *purposive* activity, which can be explained only in terms of conscious intentions and aims (that is, social freedom calls for teleological explanation) and not at all in terms of random physical causes”.¹⁵⁴ The ability to make conscious decisions is of the essence of freedom (or openness). The mental is the realm of freedom “outside” the physical. This means “that one sort of being, the physical, has given ‘birth’ to another sort, the mental.”¹⁵⁵ The mind is seen as an evolutionary extension of the physical (or nature) which it nevertheless controls and with which it interacts.¹⁵⁶

The mind produces World 3, the realm of objective human knowledge. It is World 3 that, for Popper, proves not only the indeterministic nature of the universe but its further qualities of openness and incompleteness.¹⁵⁷ As has been seen, in the previous

section there is an interaction between Worlds 1, 2, and 3 (pp.109-110). World 3 can and does act upon World 2 and through World 2 upon World 1. This openness is of fundamental importance, for it shows that nature and the universe are intrinsically creative.¹⁵⁸ Popper expresses the idea succinctly: "Our universe is partly causal, partly probabalistic, and partly open: it is emergent".¹⁵⁹

Popper's evolutionism involves a belief in newness, radical novelty and emergence.¹⁶⁰ Thus, as seen earlier (p.113), he rejects any reduction of higher level developments to a physical or chemical level. At each higher level there are developments which could not have been foreseen at lower levels.¹⁶¹ Popper expresses his objection to reductionism thus:

Can we reduce or hope to reduce biology to physics; or to physics and chemistry? Can we reduce to biology or hope to reduce to biology, those subjective conscious experiences which we ascribe to animals... . Can we reduce, or hope to reduce, the consciousness of self and the creativeness of the human mind to animal experiences and thus ... to physics and chemistry?¹⁶²

He rejects utterly materialistic monism which seeks to explain all life - including the universe - in terms of the properties of matter.¹⁶³ Matter is not a "substance" but rather "highly packed energy, transferable into other forms of energy, and therefore something of the nature of a *process* ...".¹⁶⁴ Matter operates with forces, radiating energy and other non-material entities. It is for this reason that Popper postulates that classical materialism has transcended itself.¹⁶⁵ He states:

All physical systems, including clocks, are in reality clouds... . This suggests that the emergence of hierarchical levels or layers, and of interaction between them, depends upon a fundamental indeterminism of the physical universe. Each level is open to causal influences coming from lower *and* from higher levels.¹⁶⁶

Popper's position is thus clearly indeterminate. It has been presented in broad outline in this thesis. Attention will now be focused on his attack on classical determinism.

He states that predictions about the future will never be possible. No prediction will

ever contain all the World's future theories and states. Universal theories are superseded with the help of still higher universal theories which explain the former as approximations. There is thus an infinite sequence of approximations¹⁶⁷ which no predictions can ever successfully predict. In his *Replies to my Critics* Popper gives a logical reason why a prediction cannot predict all future states:

We can start from the activity of the draughtsman who draws a large plan of a room he is sitting in, including in this plan a plan of the plan he is drawing. It is clear that he can never finish his plan: it will never contain in full the plan which he is drawing, that is, up to the last touches he has made.¹⁶⁸

In a similar vein science will never be complete because attempts to describe the present knowledge contained in books and articles can never be total. We can never foresee all future scientific developments. The key assumption is that prediction theorists are part of the world. As Popper expresses it: "No calculation or prediction can deductively predict the results of its own calculations or predictions...".¹⁶⁹ Moreover predictions from within cannot be carried out with any precision.¹⁷⁰ The so-called asymmetry between the past and the future provides another argument against determinism. This argument means that the past is closed and the future is open. An event in the past can reach through to the future, but no future event can exert any influence on the past.¹⁷¹

Still another argument against determinism states that we cannot subjectively predict results which will obtain in the future growth of knowledge. The person who does not know what he will know tomorrow cannot know how he will act on the morrow.¹⁷² Moreover, no scientist will be able to collect enough material to provide a solution to his prediction for he is unable to know what data will be needed for the prediction even though the material may exist.¹⁷³ Prediction itself can have an effect on future developments through what Popper calls the "Oedipus Complex".¹⁷⁴ Each prediction from within a system may have an influence on the system. Thus information about one's future interferes strongly in a psychological way with the knower and may help either to frustrate or to bring about the future event. Other arguments against

determinism (or historicism in the social sciences) are outside the ambit of this chapter and will be dealt with in the next chapter on "Popper and the Social Sciences". In conclusion it may be said that Popper's argument for indeterminism (in a modified form) and against determinism suggests a universe that is creative, complex and emergent rather than closed, monistic and reductionist. It is a universe that has produced life and problem-solving man, but has been open to his creativity and has been physically changed by him.

In Chapter Five attention is focused on Popper as a social and political thinker. These are not seen as separate areas, but are closely connected with his philosophy of the natural sciences. Thus he links indeterminism in physics with indeterminism in history, the criticism of theories with a rational reform of social institutions, and democracy with indeterminism and openness. Popper's thought is unified and perhaps best summed up in the sentence: "Truth is not manifest" (p.94). The implication is that what is important is not the defence of a particular theory or conjecture but rather the growth of knowledge.

FOOTNOTES

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- 1 K. Popper, *Conjectures and Refutation*, p.7; *Poverty of Historicism*, p.157.
- 2 K. Popper, *Objective Knowledge*, p.195.
- 3 *Ibid.*
- 4 K. Popper, *Realism and the Aim of Science*, p.136.
- 5 *Ibid.*, *Poverty of Historicism*, p.29.
- 6 K. Popper, *Poverty of Historicism*, p.29.
- 7 "We have no manifestly right or infallible way of distinguishing true from false in any field of inquiry ... have always to acknowledge that we may err, and that the quest for certainty is a mistaken quest." K. Popper, *The Open Society and its Enemies, Book 1*, p.7ff.
- 8 K. Popper, *Conjectures and Refutations*, p.226ff.
- 9 *Ibid.*
- 10 K. Popper, "Replies to my Critics", in *The Philosophy of K. Popper*, p.1029.
- 11 K. Popper, *Conjectures and Refutations*, p.233ff.
- 12 "A language in which one can discuss, or speak about, the expression of some object language under investigation." K. Popper, *Objective Knowledge*, p.325.
- 13 *Ibid.*, p.326.
- 14 *Ibid.*, p.329.
- 15 K. Popper, *Conjectures and Refutations*, p.8.
- 16 A. E. Musgrave, "The Objectivism of Popper's Epistemology", in *The Philosophy of Karl Popper*, pp.562-565.
- 17 K. Popper, *Unended Quest*, p.87.
- 18 K. Popper, *The Open Society and its Enemies Part II*, p.225.
- 19 *Ibid.*, p.250.
- 20 K. Popper, *Conjectures and Refutations*, p.15.
- 21 *Ibid.*, p.16.
- 22 K. Popper, *Realism and the Aim of Science*, p.19.
- 23 *Ibid.*, pp.20-21.
- 24 K. Popper, *Conjectures and Refutations*, pp.46, 115.

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- 25 K. Popper, *The Growth of Scientific Knowledge*, p.18.
- 26 K. Popper, *Logic of Scientific Discovery*, p.39.
- 27 *Ibid.*, pp. 40-44.
- 28 *Ibid.*, p.86.
- 29 *Ibid.*, p.92.
- 30 K. Popper, *Conjectures and Refutations*, pp.116-117.
- 31 *Ibid.*, p.117.
- 32 K. Popper, "Replies to my Critics", in *The Philosophy of Karl Popper*, p.976. See also: *Logic of Scientific Discovery*, pp.34-44.
- 33 *Ibid.*, p.984.
- 34 J.C. Thomas, "Meaning, Falsifiability and Theology", p.388.
- 35 K. Popper, *Logic of Scientific Discovery*, p.38.
- 36 K. Popper, *Conjectures and Refutations*, p.137.
- 37 K. Popper, *Logic of Scientific Discovery*, pp. 41-48.
- 38 *Ibid.*, p.27.
- 39 D.Hume, *Enquiry Concerning Human Understanding*, p.46.
- 40 T.E. Burke, *The Philosophy of Popper*, p.38.
- 41 D.Hume, *Treatise on Human Nature*, pp.91, 139.
- 42 K. Popper, *Realism and the Aim of Science*, p.78.
- 43 K. Popper, *Objective Knowledge*, p.6.
- 44 K. Popper, "Replies to my Critics", in *The Philosophy of Karl Popper*, p.1023.
- 45 K. Popper, *Logic of Scientific Discovery*, p.40.
- 46 K. Popper, *Conjectures and Refutations*, p.53.
- 47 K. Popper, *Logic of Scientific Discovery*, pp.32-37.
- 48 K. Popper, "Replies to my Critics", in *The Philosophy of Karl Popper*, p.64.
- 49 K. Popper, *Logic of Scientific Discovery*, p.103.
- 50 *Ibid.*, p.106.
- 51 K. Popper, *Realism and the Aim of Science*, p.181. See also: *Logic of Scientific Discovery*,

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- p.41.
- 52 K. Popper, *Conjectures and Refutations*, p.73.
- 53 K. Popper, *Objective Knowledge*, pp.61-62.
- 54 *Ibid.*, p.66.
- 55 K. Popper, *Conjectures and Refutations*, p.46.
- 56 *Ibid.*, p.47.
- 57 K. Popper, *Objective Knowledge*, p.261; *Conjectures and Refutations*, p.71.
- 58 E. Kant, *Critique of Pure Reason*, Introduction, A2, B XVII.
- 59 *Ibid.*, B. XII.
- 60 J. Naydler, "The Poverty of Popperism", p.98.
- 61 K. Popper, *Conjectures and Refutations*, p.81.
- 62 *Ibid.*, p.127. See also *Objective Knowledge*, pp.340-361.
- 63 K. Popper, *Objective Knowledge*, pp.104-5.
- 64 K. Popper, *Conjectures and Refutations*, p.129.
- 65 K. Popper, *Growth of Scientific Knowledge*, p.17.
- 66 K. Popper, *Logic of Scientific Discovery*, p.251.
- 67 K. Popper, *Objective Knowledge*, p.14.
- 68 K. Popper, *Realism and the Aim of Science*, pp. 230-31.
- 69 *Ibid.* p.243.
- 70 *Ibid.*, p.247.
- 71 K. Popper, "Truth and Approximation to the Truth", in *A Pocket Popper*, p.192.
- 72 K. Popper, *Objective Knowledge*, p.47.
- 73 *Ibid.*, p.48.
- 74 *Ibid.*, pp. 57-58.
- 75 K. Popper, *Growth of Scientific Knowledge*, pp. 46-48.
- 76 A. O'Hear, *Karl Popper*, p.206.
- 77 *Ibid.*
- 78 K. Popper, *Conjectures and Refutations*, p.234.

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- 79 *Ibid.*
- 80 K. Popper, *The Open Society and its Enemies*, Addendum (1961), 4th ed., Vol.II, p.377.
- 81 A.E. Musgrave, "The Objectivism of Popper's Epistemology", in *The Philosophy of K. Popper*, Book 1, p.564.
- 82 K.Popper, *Objective Knowledge*, p.111.
- 83 *Ibid.*
- 84 K. Popper, *The Poverty of Historicism*, pp. 149-150.
- 85 K. Popper, *Objective Knowledge*, pp. 261-262.
- 86 *Ibid.*
- 87 *Ibid.*
- 88 *Ibid.*, p.261.
- 89 K. Popper, "Replies to my Critics", in *The Philosophy of K. Popper*, p.1061.
- 90 K. Popper, *Objective Knowledge*, pp.262-3.
- 91 *Ibid.*, p.262.
- 92 *Ibid.*, p.235-6. See also K. Popper, "Replies to my Critics", in *The Philosophy of K. Popper*, p. 1061; K. Popper, *The Self and its Brain*, pp. 451-454; K. Popper *Conjectures and Refutations*. pp. 134-135.
- 93 *Ibid.*, pp. 237-8. See also K. Popper, *The Open Universe*, p.118.
- 94 *Ibid.*, p.237.
- 95 *Ibid.*, p.237.
- 96 *Ibid.*
- 97 K. Popper, *Logic of Scientific Discovery*, p.32.
- 98 K. Popper, "Replies to my Critics", in *The Philosophy of K. Popper*, pp.1061-2.
- 99 K. Popper, *Unended Quest*, p.133.
- 100 K. Popper, *Objective Knowledge*, pp.71-2.
- 101 *Ibid.*, p.287.
- 102 K. Popper, *Unended Quest*, p.132.
- 103 K. Popper, *Objective Knowledge*, pp.112-116.

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- 104 *Ibid.*, p.161.
- 105 *Ibid.*, p.116.
- 106 World 3 should be considered as divided into three parts.
- World 3.1 is the part which is presently formulated in World 1, either in the human brain or in books.
- World 3.2 is the part which has been formulated in the human mind.
- World 3.3 is that part which has so far not been clearly formulated either in World 1 or World 2.
- See also K. Popper, "Replies to my Critics", in *The Philosophy of K. Popper*, pp.1050-53.
- 107 K. Popper, *Unended Quest*, pp. 180-187. See also *The Self and its Brain*, p.38; *Objective Knowledge*, pp. 153-156; *The Open Universe*, pp.114-117.
- 108 K. Popper, *Objective Knowledge*, p.155.
- 109 K. Popper, *The Self and its Brain*, p.450. See also *The Open Universe*, p.129.
- 110 K. Popper, *Objective Knowledge*, p.122.
- 111 K. Popper, *Objective Knowledge*, pp.123-124; *Unended Quest*, p.186; *The Self and its Brain*, pp. 43-44.
- 112 K. Popper, *The Self and its Brain*, p.44.
- 113 *Ibid.*
- 114 *Ibid.*, p.46.
- 115 *Ibid.*, p.73.
- 116 *Ibid.*, p.447.
- 117 K. Popper, *Objective Knowledge*, pp.237-8; *The Open Universe*, p.118, p. 152.
- 118 K. Popper. *The Self and its Brain*. p.453.
- 119 *Ibid.*, p.454.
- 120 E. Mayr, *Evolution and the Diversity of Life*, p.23.
- 121 K. Popper, "Natural Selection and the Emergence of the Mind", in *Evolutionary Epistemology, Theory of Rationality, and the Sociology of Knowledge*, p.151.
- 122 K. Popper, *The Self and its Brain*, p. 438-9.
- 123 K. Popper, "Natural Selection and the Emergence of the Mind", in *Evolutionary Epistemology*,

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- Theory of Rationality, and the Sociology of Knowledge*, p. 151-2. See also K. Popper, *Objective Knowledge*, pp. 250-1.
- 124 K. Popper, *Objective Knowledge*, p.251.
- 125 K. Popper, *Unended Quest*, p.187.
- 126 "It appears that the body-mind problem is usually seen and discussed in terms of the various possible relationships (identity, parallels, interaction) between states of consciousness and body states. As I am an interactionist myself, I think that a part of the problem may perhaps be discussed in this manner, but I am doubtful as ever whether this discussion is worthwhile. In its stead I propose a biological and even evolutionist approach to the problem." K. Popper, *Unended Quest*, p.189.
- 127 K. Popper, *Unended Quest*, p.189.
- 128 K. Popper, *The Self and its Brain*, pp.472-473.
- 129 *Ibid.*, p.120.
- 130 *Ibid.*, p.472.
- 131 *Ibid.*, p.474. See also K. Popper, *Objective Knowledge*, pp.251-252.
- 132 *Ibid.*, p.511.
- 133 *Ibid.*, p.510.
- 134 K. Popper, *Objective Knowledge*, p.252.
- 135 The idea that the events on various levels (i.e. physical, mental) should be explained in terms of the lower levels. Thus, for example, mental events are only neural "happenings" in the brain.
- 136 This is the principle that causation can be traced from a lower to a higher level, but not vice versa.
- 137 K. Popper, *The Self and its Brain*, pp. 19-20.
- 138 *Ibid.*, p.495.
- 139 *Ibid.*, pp.553-555.
- 140 *Ibid.*, p.539.
- 141 K. Popper, *Objective Knowledge*, p.219.
- 142 *Ibid.*, p.220.
- 143 *Ibid.*, p.228.
- 144 *Ibid.*, p.229.

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- 145 *Ibid.*, p.226.
- 146 K. Popper, *Realism and the Aim of Science*, p.350.
- 147 *Ibid.*, p.359.
- 148 *Ibid.*
- 149 K. Popper, *Objective Knowledge*, p.232.
- 150 *Ibid.*, p.229-230.
- 151 *Ibid.*, p.232.
- 152 *Ibid.*, pp.240-1.
- 153 K. Popper, *The Open Universe*, p.114.
- 154 D.H. Clark, "Karl Popper's Solution to the 'Problem of Human Freedom': A Critical Evaluation", p.121.
- 155 *Ibid.*, p.123.
- 156 K. Popper, *Objective Knowledge*, p.251.
- 157 K. Popper, *The Open Universe*, p.126.
- 158 *Ibid.*, p.129.
- 159 *Ibid.*, p.130.
- 160 K. Popper, *The Self and its Brain*, p.15. See also pp. 23-27.
- 161 K. Popper, *The Open Universe*, p.131. See also *Objective Knowledge*, p.289-291.
- 162 *Ibid.*
- 163 *Ibid.*, p.171.
- 164 K. Popper, *The Self and its Brain*. p.7.
- 165 *Ibid.*, p.8.
- 166 K. Popper, *The Self and its Brain*, pp.34-35.
- 167 K. Popper, *The Open Universe*, p.46.
- 168 K. Popper, "Replies to my Critics", in *The Philosophy of K. Popper*, p.1057.
- 169 K. Popper, *The Open Universe*, p.68.
- 170 *Ibid.*, p.70.
- 171 *Ibid.*, p.58.

172 *Ibid.*, pp. 62-63.

173 *Ibid.*, pp. 80-81.

174 *Ibid.*, p.66.

CHAPTER FIVE

POPPER AND THE SOCIAL SCIENCES

5.1. RATIONALISM AND THE SOCIAL SCIENCES

There is a systematic unity in Popper's thought. Popper's argument for democracy, for example, is at one with his epistemological arguments. The attainment of an ideal society is as futile an aim as efforts to obtain an infallible foundation for our scientific theories. All knowledge is conjectural, consisting of hypotheses which have been subjected to critical discussion and testing. Thus the greatest amount of freedom is necessary both to formulate hypotheses which are attacks on present problems and to subject them to tests. An open and democratic society provides more of such freedom than an authoritarian or closed society constrained by an ideology which claims to justify it.

Popper's overall approach in both the physical and social sciences is rationalism or criticism. He defines rationalism as "an attitude of readiness to listen to critical arguments and to learn from experience".¹ Rationalism is an implacable opponent of authoritarianism, for reason grows by mutual criticism.² Socrates is the Father of critical thought; for Popper he represents the quintessence of true rationalism:

What I shall call the 'true rationalism' is the rationalism of Socrates. It is an awareness of one's limitations, the intellectual modesty of those who know how often they err, and how much they depend on others even for this knowledge. It is the realisation that we must not expect too much from reason; the argument rarely settles the question, although it is the only means for learning...³

For Socrates, then, the search for truth by critical discussion is a way of life.

What rational scientific method does Popper use in the social sciences? Firstly, as with the natural sciences, it is the method of “trial and error”. It consists in formulating hypotheses which are in principle falsifiable and then subjecting them to rigid tests.⁴ Popper’s principle of demarcation distinguished between science and non-science,⁵ but perhaps Popper’s deeper concern was to distinguish between criticizable and non-criticizable theories. Although in *The Open Society and its Enemies Part II* he states: “... when I speak here of ‘rationalism’, I use the word always in a sense which includes ‘empiricism’ as well as ‘intellectualism’; just as science makes use of experiment as well as thought”,⁶ on the next page Popper widens the scope of empiricism when he continues: “...rationalism is an attitude of readiness to listen to critical argument and to learn from experience”.⁷ Thus non-scientific or metaphysical statements which are not empirically falsifiable can be submitted to critical examination. In a talk entitled “On the Status of Science and Metaphysics” Popper argues that metaphysical theories are susceptible to criticism and argumentation because they are attempts to solve problems.⁸

Secondly, given the importance of falsification in the development of objective knowledge, Popper develops his social philosophy in a polemical way: by negative criticism of doctrines to which he is violently opposed; historicism, holism, essentialism, totalitarianism etc. We shall return to these “isms” and Popper’s criticisms thereof in section 5.3.

Thirdly, no hypothesis is unrelated to a context or tradition. A new hypothesis springs from provisionally established theories in which context it is intelligible. We do not start afresh each time. No hypotheses are formulated in terms of what we have learnt *not* to be the case. Popper explains the concept of tradition as follows:

This means that you pick up, and try to continue, a line of enquiry which has the whole background of the earlier development ... behind it; you fall in with the tradition ... we cannot start afresh; we must make use of what people before us have done⁹

The main thrust of Popper’s attack on “utopianism” or “holistic” social engineering

relates to the flaunting of tradition in the sense understood above. Both philosophies take the view that the only real social change is a complete change; any attempt at partial improvement will fail because any partial aspect of social life depends organically on the whole.¹⁰ This view, for Popper, is unscientific. The proper "scientific" attitude on the question of social policy is "piecemeal social engineering".¹¹ This is a concentration on one social problem at a time, modifying subsequent social positions in the light of the outcome of previous interventions.

Fourthly, Popper's scientific empiricism is transferred to social institutions when he states that a concern for practical problems is needed if our theoretical understanding of social institutions is to advance: "Practice is not the enemy of theoretical knowledge but the most valuable incentive to it".¹² Put simply, this means that we shall improve our understanding of institutions by trying to improve them.

Fifthly, Popper's concern with improvement leads to the problem of values and their relationship to facts. Statements are the medium in which to express facts whereas norms express values - what Popper calls "a dualism of facts and decisions".¹³ Thus it is impossible to reduce norms to facts:

... it is impossible to derive a sentence stating a norm or decision or say, a proposal for a policy from a sentence stating a fact; this is only another way of saying that it is impossible to derive norms or decisions or proposals from facts.¹⁴

Facts are independent of man and his thoughts whereas norms are dependent upon decisions to make, to observe or to alter them. Therefore man has a moral responsibility for them.¹⁵ Values can be said to transcend the world of facts. Popper does not quite see values as World 3 objects,¹⁶ but rather sees World 3 as dominated by the values of objective truth and its growth.¹⁷ Popper's insistence on the dualism of facts and decisions refutes any suggestion that values may be derived from actual historical trends or that history can judge questions of moral worth (see Section 5.4).

Sixthly, Popper espouses a form of “methodological individualism”¹⁸ in reaction to holism whereby a collection of people (such as a race, a state or a class) is somehow greater than the total number of individuals who comprise it.¹⁹ Popper proposes instead a view according to which society is no more than the sum of the individuals comprising it. What happens in history and society is thus the result of the action of individuals:

Very often we are unaware of the fact that we are operating with hypotheses or theories, and we therefore mistake our theoretical models for concrete things ... the task of social theory is to construct and analyze our sociological models carefully in descriptive or nominalistic terms, that is to say, *in terms of individuals*, of their attitudes, expectations, relations, etc...²⁰

Popper’s “individualism” can best be understood in terms of “methodological nominalism”.²¹ He suggests that the methods of the natural sciences are in reality nominalistic.²² Popper’s attitude against essentialism²³ arises from his strongly held belief that, in the words of Clifton Perry,

... the proper explanation in social as well as natural sciences is one which explains the phenomenon under investigation in terms of contingent laws. The main purpose of social science is not to investigate the nature of a social phenomenon but rather how such a phenomenon came to be, how it behaves and how it affects other phenomena.²⁴

Lastly, as a “methodological nominalist”, Popper is not interested in “What is...?” questions but rather in “How do...?” questions. For example, instead of the fundamental problem of politics being: “Who should rule the state?” it should rather be: “How can we so organize political institutions that bad or incompetent rulers can be prevented from doing too much damage?”²⁵ Therefore the important humanistic question is: How are societies to be improved? This question is connected with Popper’s policy of a rational and piecemeal method of social improvement.²⁶ Popper explains the idea thus:

... the piecemeal method ... can be used, more particularly, in order to search for, and fight against, the greatest and most urgent ills of society, rather than to seek, and to fight for, some ultimate good.²⁷

For Popper, it is also more rational to have aims which are widely shared. This is more likely to be the case with policies which attack social evils than with policies which aim

towards the greatest ultimate good.²⁸ Moreover, the complications of life make a blueprint for social change on a grand scale almost impracticable, whereas a blueprint for piecemeal social engineering will be comparatively simple.²⁹

Popper's method avoids what he calls "irrationalism" in social policy. He "defines" such irrationalism as:

... a doctrine or creed that does not propound connected and debatable arguments, but rather propounds aphorisms and dogmatic statements which must be 'understood' or else left alone,... (and) will generally tend to become the property of an esoteric circle of the initiated.³⁰

Popper considers irrational and unscientific all belief in intellectual infallibility, such as the "intellectualistic intuitionism" of Plato,³¹ historicism which tries in Popper's words " ... to compensate ... for the loss of the unchanging world by clinging to the faith that change can to be foreseen because it is ruled by an unchanging law",³² and "re-inforced dogmatisms"³³ like Marxism (and various psychological theories such as those of Freud and Adler) which are immune to criticism and correction and are sufficient in themselves. Popper explains as follows: "Marxists ... are accustomed to explain the disagreement of an opponent by his class bias, and sociologists of knowledge by his total ideology. Such methods ... lead ... to ... anti-rationalism and mysticism ...".³⁴ For Popper, as we have seen, scientific results have the character of hypotheses which are open to reason at any time. The method is that of trial and error, the conjecture of hypotheses and the submission of these hypotheses to practical tests. For the social sciences, the testing is by piecemeal social engineering.³⁵

In this section, Popper's methodology as applied specifically to the social sciences but closely allied to the natural sciences, has been outlined. In the next section analysis of Plato's political ideas as interpreted by Popper will be undertaken. Plato's society is a "closed" society; a *via negativa* method will lead to an appreciation of what Popper means by an "open society".

5.2. PLATO'S "CLOSED SOCIETY"

The Open Society and its Enemies Vol. 1, published in 1945, is devoted to a defence of Popper's interpretation of Plato as the enemy of the open and democratic society. Popper's interpretation has been subjected to much criticism by various scholars over the years.³⁶ It is not within the ambit of this study to evaluate Popper's interpretation of Plato. For the purposes of this thesis this interpretation is a vehicle for Popper's own criticism of various "historicist" or closely allied sociological and political doctrines such as Hegelianism and Marxism. It is with this limitation in mind that this critical study begins.

In *The Open Society and its Enemies* Popper is attacking various forms of totalitarianism which attempt in the name of holism or collectivism to undermine Western liberal democracy and impose large-scale social planning. The aim of holistic (sometimes called Utopian) social engineering is, in Popper's words, the "remodelling (of) the whole of society in accordance with a definite plan or blueprint".³⁷ Historicism postulates that there are social laws of change and development.³⁸ This implies that effective social action must have as its basis historical interpretation and especially historical prophecy.³⁹ Historicists aim to discern the "trends" of history which they consider to be unalterable laws. Thus the unifying theme of *The Open Society* is Popper's critical examination of the origin and development of historicism: the view that we can discover the laws of history which will enable us to "prophesy the course of historical events".⁴⁰

Popper proposes that Plato's "historicist" doctrine was essentially pessimistic and that is aimed at arresting all change and keeping the "ideal" society static.⁴¹ According to Popper, Plato had held that since the good state lies in the past, a change is nearly always for the worse. Our fundamental aim must therefore be to: "arrest all political

change! Change is evil and rest is divine!... Back to nature!"⁴². Popper charges that Plato attempts to arrest all change and return to the closed and static society of tribalism⁴³ (cf. Hegel and Marx). Popper also shows that, according to Plato, the first example of an "ideal form" in history is necessarily closer to the original and consequently more perfect than what follows.⁴⁴ The first human society was then the Golden Age which was followed by a process of degradation.⁴⁵ Thus the criterion of distinction between a good and a bad state is whether or not it is inherently static. Innovation is decay. Thus, how do we arrest change? To answer the question Popper turns to Plato's idea of justice:

What did Plato mean by 'Justice?' I maintain that in the *Republic* he used the term 'just' as a synonym for 'that which is in the interest of the best state'. And what is in the interest of the best state? To arrest all change, by the maintenance of a rigid class division and class rule.⁴⁶

Thus Popper maintains that Plato's concept of justice is far from egalitarian and that it is identical with that adopted in totalitarian societies:

... we can say that Plato's theory of justice; as presented in the *Republic* and later works, is a conscious attempt to get the better of the equalitarian, individualistic and protectionist tendencies of his time, and to re-establish the claim of tribalism by developing a totalitarian moral theory ...⁴⁷.

Popper attributes to Plato an "organic" theory of the state. The state becomes a super individual thing with a life of its own and independent of its individual members.⁴⁸ Thus Plato's justice is not based on the relationship between individuals, but is related to the good ordering of the state and a correct relationship between the classes.⁴⁹ Popper says of the Platonic view: "The criterion of morality is the interest of the state"⁵⁰.

In opposition to this view Popper proposes a view that would make society no more than the sum of the individuals who comprise it. He admits,⁵¹ however, that human society will be greater than the sum of its individual parts because of relations obtaining between the individual constituents; but only just a little.⁵² Plato had felt,

according to Popper, that justice implied inequality and that the collective had a higher status than the individual.⁵³ Popper postulates the counter-theory that the individual has supreme importance in life.⁵⁴ His methodological individualism decries any holistic view that suprahuman forces are operative in history. He asserts: "... the functioning of all social institutions, should always be understood as resulting from the decisions, actions, attributes etc. of human individuals"⁵⁵ However, in his later philosophy, Popper abandons his methodological individualism arguing instead that groups do affect the action of individuals and even that institutions develop an autonomy of their own.⁵⁶

A. O'Hear says of Popper's social science:

...[It] is an attempt to avoid extremes. It is individualistic without being psychologistic. It admits the autonomy of sociology, in saying that men are formed by traditions and institutions, but attempts to avoid holism by explaining events as the consequences of individual actions.⁵⁷

Popper's individualistic or humanitarian theory of justice demands egalitarianism, individualism, and state protection of the rights of the individual.⁵⁸ Platonism presents instead natural privilege; holism and collectivism; and individual subservience to state needs.⁵⁹

The root of the problem, according to Popper, is methodological essentialism.⁶⁰ Popper says that Plato saw the question "Who should rule the state?" as the fundamental political problem.⁶¹ Popper wishes to replace Plato's question with a new one:⁶² "How can we so organize political institutions that bad or incompetent rulers can be prevented from doing too much damage?"⁶³ Popper feels that the really important question is how rulers are to be controlled. Political institutions avoiding the possibility of tyranny need to be created. Thus Popper's "democracy" is a careful system of checks and balances:

... the theory of democracy is not based upon the principle that the majority should rule; rather, the various equalitarian methods of democratic control, such as general elections and representative government, are to be considered as no more than tried ends and, in the presence of a widespread traditional distrust of tyranny...⁶⁴.

Plato's first answer to the question "Who should rule?" is guardians; Popper maintains these guardians impose an irrational tyranny under the guise of reason. According to Popper they are "a master race"⁶⁵, a "ruling class"⁶⁶ and the herders of "human cattle"⁶⁷. Secondly, Plato's authority is exercised through "philosopher-kings"; according to Popper, these have as their main function "the copying of the divine original of the city, ... and ... the divine original of man"⁶⁸. Here, Popper feels, is Plato's undisguised holism and essentialism. He recommends that we search, not for essences, but rather for processes. The perfect city and the perfect man are not legitimate quests. Rather, we should ask, how do we provide the mechanisms whereby the imperfect may become better and may improve?

Firstly, as was seen in the last chapter, we learn from our mistakes by criticism and this even involves the right to criticize one's ruler. Popper expresses the lesson thus:

... perhaps the greatest of all, Socrates, ... taught the lesson that we must have faith in human reason, but at the same time beware of dogmatism; that we must keep away both from misology, the distrust of theory and reason, and from the magical attitude of those who make an idol of wisdom; who taught, in other words, that the spirit of science is criticism ...⁶⁹.

As Popper sees it, rulers are bound to make mistakes and therefore rational government must be subject to the spirit of criticism. In this way mistakes are pointed out and lessons learned. In the last chapter it was seen that Popper rejected induction as a scientific method. The truth emerges as a result of attempts to refute theories, and here non-experts are necessary to the process. No one person can be expected to criticize his own ideas rigorously. Thus there is a connection between science and democracy and this is why Plato's guardians and philosopher-kings are valueless. Ruler and ruled need each other and the new knowledge that emerges depends for its validity on a spirit of openness and criticism.

Secondly, the only rational approach, for Popper, is what he calls "piecemeal social engineering"⁷⁰. The holist (like Plato, according to Popper) begins with a preconceived

“blue print” of how things should be, while the piecemeal planner begins by formulating what the problem is. He will “adopt the method of searching for, and fighting against the greatest and most urgent evils of society, rather than searching for, and fighting for, its greatest ultimate good”.⁷¹ Put simply: “We must learn to do things as well as we can, and to look out for our mistakes”.⁷²

The Platonic approach, according to Popper, has been the belief in an absolute and unchanging ideal, restructuring and recasting the whole of society. The piecemeal method, in contradistinction, allowed repeated experiment and consequent re-adjustment:

It is the conviction that one has to go to the very roots of the social evil, that nothing short of a complete eradication of the offending social system will do if you wish to ‘bring decency into the world’.⁷³

Closely linked to the fallacies of Utopianism and to piecemeal social engineering is Popper’s ethical theory which he calls “critical dualism”.⁷⁴ “Critical dualism thus emphasises the impossibility of reducing decisions or norms to facts; it can therefore be described as a *dualism of facts and decisions*”.⁷⁵ Popper feels that Plato, in recognising natural laws, has violated the principle.⁷⁶ Wilds explains:

They have confused natural regularities, which are factually true and cannot be violated, with normative prescriptions which ought to be true (according to some persons or groups), and can always be violated. Since Plato recognised not only biological needs common to all men but non-biological needs as well, Popper calls him a “spiritual naturalist”.⁷⁷

Popper sees norms as “man-made”: “Norms are man-made in the sense that we must blame nobody but ourselves for them; neither nature nor God. It is our business to improve them as much as we can, if we find that they are objectionable”.⁷⁸ Popper thus makes the individual responsible for ethical decisions. In this way he strikes a further blow against authoritarianism. Our principles and decisions need to be constantly assessed in the light of new facts and experiences (including the experience of other people). What Popper is in effect saying is that there are no certain right answers to either our practical or our theoretical (e.g. ethical) problems. Only the rational

programme will do, that is, progress through self-criticism and self-correction. The historicist cannot tell us what we ought to do. Our actions are up to us. We are always free to criticise. However, Popper's arguments are not ethically indifferent.⁷⁹ As we strive for scientific, objective truth, so by the same method we strive for objective, valid ethical standards:

... we may take the idea of absolute truth - of correspondence to the facts - as a kind of model for the realm of studies, in order to make it clear to ourselves that, just as we *seek* for absolutely true propositions in the realms of facts ..., we may *seek* for absolutely right or valid propositions in the realm of standards - or at least for better or more valid, proposals.⁸⁰

In conclusion, Popper sees Plato as a subtle propogator of the closed tribal society. The Greeks began the revolutionary but painful transition from a closed to an open society⁸¹ in which what Popper calls the "strain of civilization"⁸² was so keenly felt. This strain

...is the strain created by effort which life in an open or partially abstract society continually demands from us - by the endeavour to be rational, to forgo at least some of our emotional social needs, to look after ourselves, and to accept responsibilities ...⁸³.

Unlike the members of what Popper calls the "Great Generation"⁸⁴, Plato reacted against the open and democratic society. He was captivated by the "alleged innocence and beauty"⁸⁵ of the closed society. For Popper this closed society has to be resisted and the "strain of civilization" accepted, while reason, criticism and personal responsibility must lead us into the unknown realm of freedom and evolutionary advancement.

In the next section the focus will be on the more immediate enemies of the Open Society, viz. Hegel and Marx. They were both protagonists of irrefutable political and social dogmatism and therefore of necessity enemies of the Open Society.

5.3. HEGEL AND MARX: ENEMIES OF THE OPEN SOCIETY

The Open Society and its Enemies consists mainly of critiques of the politics and sociology of Plato and Marx. Part I was concerned exclusively with Plato. Part II is devoted almost exclusively to Hegel and Marx with an introductory chapter on Aristotle.

Popper has a deep hatred of Hegel and Hegelianism.⁸⁶ Gilbert Ryle passes a valid comment:

His comments (on Hegel), in consequence, have a shrillness which detracts from their force. It is right that he should feel passionately. The survival of liberal ideas and liberal practices has been and still are in jeopardy. But it is bad tactics in a champion of the freedom of thought to use blackguarding idioms characteristic of its enemies. His verdicts are, I think, just, but they would exert a greater influence if they sounded judicial.⁸⁷

Popper finds the roots of Hegelianism in Aristotle.⁸⁸ Aristotelian thought is dominated by Plato, but here the formal essence of any sensible thing, which exists in it and not outside it, is synonymous with its purpose, end or final state. All sensible things thus carry within themselves a potentiality which is realized in their final state as their essence.⁸⁹ Thus in order to be realized essence manifests itself in change.

Popper sees Aristotle as the father of what he calls “essentialism”: “Eventually he simply postulates that we possess an intellectual intuition, a mental or intellectual faculty which enables us unerringly to grasp the essence of things and to know them”⁹⁰. Thus essentialism is closely allied to definitions such as “What is X?” and “What does X mean?”⁹¹. Whereas essentialists read definitions from left to right, Popper insists that modern science reads definitions from right to left in order to give what he calls “short labels”, for science needs only undefined terms.⁹² (This is a nominalist approach.⁹³) In the *Poverty of Historicism* he characterizes the method of the natural sciences as nominalist whereas in the social sciences essentialism tends to be the methodology.⁹⁴

The Aristotelian legacy, according to Popper, is a preoccupation with meaning, definition and demonstrative proof leading ultimately to a weariness with argument and reason.⁹⁵

Like Aristotle and unlike Plato, Hegel is an optimistic historicist. He teaches that the general trend is towards the essences or ideas which are self-developing and self-creating and propel themselves in the direction of the Aristotelian final cause. It is this final cause which Hegel calls "The Absolute Idea" or "The Idea". Popper criticizes the attempt to treat Thought as a self-generating process as the worst element in Hegel's theory. This process has a logical or semi-logical triadic relationship between the stages.⁹⁶ This "dialectic triad" involves an original element which is the thesis, bringing forth its opposite or antithesis. The resulting tension requires a synthesis which reconciles thesis and antithesis and begins the necessary process again.

Popper notes only a superficial resemblance between the dialectic triad and his idea of progress through trial-and-error, conjecture and refutation. The antithesis is inherently self-contradictory whereas rational argument aims to eliminate contradiction.⁹⁷ However, if contradiction is unavoidable, we are faced with what Popper calls a "re-inforced dogmatism"⁹⁸:

'All things are contradictory in themselves' he (Hegel) insists ... and the reason why he wishes to admit contradictions is that he wants to stop rational argument, and with it scientific and intellectual progress. By making argument and criticism impossible, he intends to make his own philosophy proof against all criticism, so that it may establish itself as a *re-inforced dogmatism*, secure from attack.⁹⁹

Popper correctly sees the function of dialectic as providing the momentum for change. However, it can only do this if contradiction is ruled unacceptable as it must be overcome.¹⁰⁰ Further, Popper feels that the dialectic opens the way to excess in dogmatism and irrationality, for the movement in history has an innate momentum independent of the choices and efforts of human individuals.¹⁰¹ Another rationally unacceptable aspect of Hegelianism, according to Popper, is Hegel's so-called

“philosophy of identity”¹⁰², which he explains as follows:

... everything that is reasonable must be real, and everything that is real must be reasonable, and that the development of reality is the same as that of reason. And since there can be no higher standard in existence than the latest development of Reason and the Idea, everything that is real or actually exists by necessity,... must be reasonable as well as good.¹⁰³

The problem for Popper is that the philosophy of identity justifies the present order and is thus “moral positivism”: “... that what is, is good, since there can be no standard but the existing standard; it is the doctrine that *might is right*”¹⁰⁴. Another closely allied moral stance is “moral futurism” by which Popper means “that coming might is right”¹⁰⁵ so that: “... the most reasonable attitude to adopt is so to adjust one’s system of values as to make it conform with the impending changes”¹⁰⁶. The essential problem is that both positions adopt prevailing or future standards *without criticism*.

Popper sees Hegelianism as the inspiration behind modern authoritarian and totalitarian movements and their irrational offspring such as nationalism, glorification of the state, the ethical idea of war, the world historical personality and the concepts of the “heroic life” and the “heroic man”¹⁰⁷. Of the Hegelian state he says:

The State is the Law, the moral law as well as the fundamental law. Thus it cannot be subject to any other standard, and especially not to the yardstick of civil morality... . Its only judge is the History of the World... . To be successful, that is, to emerge as the strongest from the dialectical struggle of the different National spirits for power, for world domination, is thus the only and ultimate aim and the only basis for judgement...¹⁰⁸.

Hegel emerges from Popper’s analysis as a hopelessly confused thinker, an enemy of intellectual and political freedom and a forerunner of all that is distasteful in the modern world, such as racialism, nationalist and totalitarianism.

There is much opposition to Popper’s interpretation of Marx’s “historicism”¹⁰⁹, but again, as was the case with Plato, Popper’s interpretation embodies his social and political thought - the subject of this thesis.

According to Popper, Marx takes Hegel's concept of the dialectic and makes it the basis for attempts to formulate laws of historical development. Marx inverts Hegelianism and traces dialectical processes in the world of material things rather than in the world of ideas.¹¹⁰ Popper maintains that Marx is therefore a "practical dualist" who draws a fundamental distinction between the natural and the mental or spiritual world:

... although he recognized that the natural world and its necessities are fundamental, he did not feel any love for the 'kingdom of necessity', as he calls a society which is in bondage to its natural needs. He cherished the spiritual world, the 'kingdom of freedom', and the spiritual side of 'human nature' as much as any Christian dualist... . With Hegel he thinks that freedom is the aim of historical development.¹¹¹

Freedom is, for Marx, the ultimate aim of historical development, but human beings inherit "the kingdom of freedom" only in so far as they escape from the necessities of material life. This is to be done by minimizing the tools of production and equalizing labour so that everyone has at least some measure of freedom.¹¹²

However such developments are "unfree" in the sense that they are outside the control of individuals caught up in the process. The process determines itself and is carried along by its own momentum. Popper expresses this deterministic process thus: "...my fundamental thesis is not (as you suspected) the sentimental desire to help the oppressed, but the scientific and rational decision not to offer vain resistance to the developmental laws of society... I can actively assist in shortening and lessening its birth pangs"¹¹³.

There is an advance here from Utopian ideas about how we would like society to be, to the laws according to which society must change. Marx gives economics the central role in his (according to Popper) "deterministic" historical development. According to his economic version of historicism significant historical changes only occur when a particular social system destroys itself through conflicting class interests and is replaced by another. As Popper expresses it, in the Marxist analysis: "... history is propelled and the fate of man determined by the war of classes and not the war of nations (as opposed to the view of Hegel and the majority of historians)"¹¹⁴. Popper argues that

the class struggle cannot be treated as a dogma because there were many struggles in history which were not waged between classes or for the pursuit of their economic interest.¹¹⁵

Marxism insists that class interest significantly influences human persons: "It is not the consciousness of man that determines his existence - rather, it is his social existence that determines his consciousness."¹¹⁶ Thus man's actions are what they are because they are determined by antecedent and simultaneous events. Thus social systems change with the forces governing production; a particular period of economic development produces a particular social system.¹¹⁷ As Popper suggests, Marx considers not only the actions of individuals to be determined by social events but makes the social system determine thought as well.¹¹⁸ Popper sees this development as an indication of Marx's "metaphysical essentialism". The world of ideas and norms are then "accidents" of the "reality" which is economic and material.¹¹⁹ Popper calls this "moral sociology"¹²⁰ and counters it as follows:

That man, and his aims, are *in a certain sense* a product of society is true enough. But it is also true that society is a product of man and of his aims and that it may become increasingly so ... the decisive point is that our mind, our opinions though largely dependent on our upbringing are not totally so... . But it simply cannot be denied that we can examine thoughts, that we can criticise them, improve them, and further that we can change and improve our physical environment according to our changed, improved thoughts.¹²¹

This is confirmation of the fact that despite the importance of economic factors they are not the only influence in human history. Popper says that the scientific relationship with the material means of production is one of interdependence rather than one of dependence, that is, scientific discovery has determined the direction of industrial output (cf. the effect of World 3 on World 1).

Popper feels that Marxism is basically irrational and unscientific for, being a "re-inforced dogmatism", opposition is dismissed as, for example, class bias.¹²² Indeed all science, although moving towards objectivity, is in a sense relative, that is, it will be

superseded in the course of scientific progress. The authoritarian nature of Marxism makes it impossible for it to be reconciled with reason since it cannot challenge its basic presuppositions, e.g. that our thoughts and opinions have a class or national bias.¹²³ Rather, as Popper expresses it, "in history we have no such unifying theories"¹²⁴. Every generation must face its own historical interpretation,¹²⁵ which can be compared to a searchlight:

We let it play upon our past, and we hope to illuminate the present by its reflection. As opposed to this, the historicist may be compared to a searchlight which we direct upon ourselves... [thus]... we... select (as historicists) and order the facts of history,...[believing] that 'history itself' or 'the history of mankind', determines, by its inherent laws, ourselves, our problems, our future, and even our point of view...¹²⁶.

Popper's "critical rationalist" view leads him to remark that we do not need "certainty" for we move towards truth and progress by defending our basic democratic institutions.¹²⁷ We do not need a single, fixed and once-and-for-all social ideal; rather, our programme should be one of piecemeal social reform. Using existing structures we tackle immediate and specific problems by the method of trial and error. We learn from our mistakes, achieving improvement but not perfection. Insight is always only partial.

According to Popper, Hegel and Marx, like Plato, proposed a fixed absolute social ideal towards which all societies are to aspire and against which existing structures should be measured.¹²⁸ Ultimately this ideal is something to which the progress of history inexorably moves without outside individual human effort. Popper's alternative is an "open society", where the individual members recognize their responsibility for self-determination. There are consequently no ideals other than those of our own making. The growth of objective knowledge is a major factor in determining historical development. The growth of knowledge itself makes long-term prediction impossible. Popper expresses this ideal aptly when he says: "Instead of posing as prophets we must become makers of our fate"¹²⁹.

In the next section a detailed analysis of "historicism", which is Popper's chief objection

to Plato, Hegel and Marx, will be undertaken. This analysis will focus to a limited degree on Popper's Open Society as an alternative to historicism.

5.4. POPPER'S ATTACK ON HISTORICISM

As was mentioned (p.128) earlier Popper's philosophy of the physical and natural sciences determines what he says about the social sciences. No generalisation about human society, either in its structure or development, is open to verification. Thus the conjecture and refutation account of theories holds not only for the physical sciences but also for the social sciences. Man is forever faced by problems both theoretical and practical with no solution being guaranteed the appellation "truth". His very survival as an organism depends on his being able to alter and adapt his provisional solutions in the light of experience. As seen in the previous section, Popper agrees that we can make short-term predictions, but long-term historical prophecy is always misguided and indeed irrational. In his *Poverty of Historicism* Popper provides a brief explanation of what he means by "historicism"¹³⁰

It will be enough if I say here that I mean by "historicism" an approach to the social sciences which assumes that *historical prediction* is their principle aim, and which assumes that this aim is attainable by discovering the "rhythms" or the "patterns", the "laws" or the "trends" that underlie the evolution of history.¹³¹

Shaw distinguishes between Popper's objection to "radical historicism" and what he calls "limited historicism"¹³². Radical historicism proposes the view that unchanging laws of history may be discovered, thus facilitating precise predictions. Limited historicism, on the other hand, limits the degree of the accuracy of the predictions.¹³³

As early as the Preface to the *Poverty of Historicism* Popper raises what are arguably perhaps his chief objections to historicism: firstly, it is impossible to predict the growth of knowledge; and secondly, knowledge influences the course of human history.¹³⁴ Thus any historical prediction is likely to be adversely affected by the growth of

knowledge or a creative invention or discovery. While short-term or vague predictions related to piecemeal social engineering¹³⁵ are possible, according to Popper, he is extremely cautious, for in another place he states: "Some historicists, it is true, are content to predict only the next stage of the human pilgrimage, and even these in very cautious terms"¹³⁶.

Popper's main attack is however, on the belief that there are laws of historical prediction. He divides historicist laws into two main groups, antinaturalistic and pronaturalistic historical doctrines. Naturalistic theories propose applying the methods of physics to the social sciences.¹³⁷ However, as Donogan notes: "... both when they professed to reject the methods of physics and when they professed to accept them, the historicists misunderstood what the methods of physics are ..."¹³⁸.

A brief analysis of some of the more important aspects of both doctrines follows. Anti-naturalist doctrines are dealt with first.

Firstly, historicists reject the notion that the laws of nature which transcend particular time and space can apply to the social sciences. They hold that social laws that apply in one period may not hold in another: "... in similar circumstances similar things will happen ...[but]... this principle is necessarily useless in sociology. Similar circumstances may arise within a single historical period. They never persist from one period to another"¹³⁹.

Social situations, too, unlike situations in nature may be "radically novel". This means that the social regularities which may obtain in certain places and certain times do not exist in other situations at different periods.¹⁴⁰ Popper counters this argument by suggesting that novelties are to be explained not by laws being operative only within certain places and periods but, rather, by finding the novelty in the initial conditions.¹⁴¹

Secondly, there is a widespread belief that social sciences have to do with “wholes”, that is, the so-called principle of holism. Popper describes it thus: “Historicism claims that we must study the history of the group, its tradition and institutions, if we wish to ... understand and perhaps to foresee, its future development.”¹⁴² Popper discusses the possibility that holism could never be subject to scientific enquiry:¹⁴³

It is a mistake to believe that there can be a history in a holistic sense, a history of ‘States’ of society’ which, represents the ‘whole of the social organism’ or ‘all the social and historical events of an epoch’... [it] is logically impossible ... to step up and direct the entire system of society and to regulate the whole of social life...¹⁴⁴.

Proceeding from the above point Popper also suggests that any holistic planner must be aware that it is impossible to centralize knowledge which is shared by so many individual minds.¹⁴⁵ The only rational alternative is the piecemeal social method which aims, as Popper expresses it, “for the elimination of concrete evils rather than the realization of abstract goods”¹⁴⁶. With this method we take a problem, preferably a small one, and attempt to solve it by various institutional changes. In this way we will be able to look for the unforeseen results of the changes and attempt to right them. This is obviously the rational method of problem-solving, of hypothesis and falsification, of conjecture and refutation.

The alternative to piecemeal planning, closely allied to holism, is its practical end, Utopianism.¹⁴⁷ The Utopianist wants to construct a society which is radically different from, and better than, the one we have now. He believes that a radically different society will result in an improved human nature.¹⁴⁸ Popper condemns Utopianism as not only misguided but unscientific:

It seems to escape the well-meaning Utopianist that this programme implies an admission of failure, even before he launches it. For it substitutes for his demands that we build a new society, fit for men and women to live in, the demand that we ‘mould’ these men and women to fit into his new society. This, clearly, removes any possibility of testing the success or failure of the new society. For those who do not like living in it only admit thereby that they are not fit to live in it; that their ‘human impulses’ need further ‘organizing’. But without the possibility of tests, any claim that a ‘scientific approach’ is being employed evaporates.¹⁴⁹

Thirdly, antinaturalist historicists agree that, even if naturalism in the physical sciences were true, the sheer complexity of the subject matter of the social sciences makes the naturalistic method inappropriate. Popper expresses the position as follows: "The fact that sociology comes last in this hierarchy of sciences plainly shows us the tremendous complexity of the factors involved in social life".¹⁵⁰ Popper, however, sees sociological method as "methodological individualism"¹⁵¹: "... the task of social theory is to construct and analyze our sociological models carefully in descriptive or nominalist terms... *in terms of individuals*, of their attitudes, expectations, relations etc ..."¹⁵².

Attention will now turn to the pronaturalistic historicist doctrine. Two naturalist principles are regarded as fundamental to historicism: firstly, that the social sciences are empirical in that they test hypotheses by empirical methods; and secondly, that the social sciences are theoretical. They find universal laws from which explanations and predictions may be deduced.¹⁵³ It is of course accepted by these historicists that the social sciences use these principles in a different way. This empirical evidence is historical in the sense that "sociology is theoretical history"¹⁵⁴. This means that, given the initial conditions situated in history, we may deduce historical predictions from them. Popper expresses the principle in this way: "*If it is possible for astronomy to predict eclipses, why should it not be possible for sociology to predict revolutions?*"¹⁵⁵ The accuracy of forecasts is limited for there is uncertainty in both details and timing.¹⁵⁶ As Popper comments, "... it follows from our exposition of the antinaturalist doctrines of historicism that *short-term predictions* in the social sciences must suffer from great disadvantages"¹⁵⁷. However, the naturalist historicist doctrine believes that the social sciences should attempt large scale forecasts for, as mentioned above, sociology is "theoretical history":

Sociology, then becomes, to the historicist an attempt to solve the old problem of foretelling the future; not so much the future of the individual as that of groups, and of the whole human race ... sociological study should help to reveal the political future so that it could thereby become the foremost instrument of far-sighted practical politics ...¹⁵⁸.

There is a further historicist inference based on the principle of large scale forecast which many historicists find more acceptable. This states that the only universally valid laws of society are those which link up successive periods.¹⁵⁹ Popper rejects this inference, as the development of human history is understood only in singular historical statements: "Such a process ... proceeds in accordance with all kinds of causal laws ... its description, however, is not a law, but only a singular historical statement"¹⁶⁰.

Some historicists would wish to replace the concept of law by trend. Even if history is repetition, it has "a trend, or tendency or direction"¹⁶¹ which links up successive periods. However, according to Popper, trends are not laws. Rather, they are existential, relating to singular historical statements and are not universal.¹⁶² That a trend has existed up to a certain time does not allow us to assume that it will continue.¹⁶³

In his analysis of historicism, as presented in summary in the foregoing pages, Popper seeks to show that historicism is "a method that does not bear any fruit"¹⁶⁴. Popper regards it and its allies, Holism and Utopianism, as misguided "moral enthusiasm"¹⁶⁵. He makes the sobering comment that goodness in itself can be dangerous if not combined with rational criticism.¹⁶⁶ He comments as follows:

The main trouble of our time - and I do not deny that we live in troubled times - are not due to moral wickedness, but, on the contrary, to our misguided moral enthusiasm; to our anxiety to better the world we live in. Our wars are fundamentally religious wars; they are wars between competing theories of how to establish a better world. And our moral enthusiasm is often misguided, because we fail to realize that our moral principles, which are sure to be over-simple, are often difficult to apply to the complex human and political solutions to which we feel bound to apply them.¹⁶⁷

Popper believes that the counter to historicism and allied authoritarian movements lies in a threefold response: respect for interpersonal objective truth, the ability to learn from our mistakes, and an ability to listen to one another and to criticise one another.¹⁶⁸

In the next section Popper's response to historicism, the Open Society, will be addressed. This is a society based on evolving truth, fallibilism, piecemeal social engineering, individualism and protectionism.

5.5. POPPER'S ALTERNATIVE: THE OPEN SOCIETY

Popper's theory of historical development is based on the idea of two widely differing and opposing forms of society - closed and open. It has been seen that the former is a typical tribal society with fixed societal patterns, while the latter is based on evolving and changing social patterns. The "static" and the "collective" are opposed by the "evolving" and the "individualistic".

The truth about society is not something to be discovered, something outside our control, as the historicist would have us believe. Rather, the individuals who make up society are responsible for their own self-determination, for there are no ideas or institutions other than those of human making.¹⁶⁹

The stress on the individual in Popper's thought is related to his nominalist and anti-essentialist scientific and social stance: "essentialism not only believes in the existence of universals (i.e. of universal objects) it also stresses their importance in science [whereas] ... the nominalist holds that the task of science is only to describe how things behave ..." ¹⁷⁰. Thus the activities of the social sciences should, according to Popper, relate to the phenomenon under discussion, its origin, its behaviour and its relationship to other phenomena.¹⁷¹

The importance of the individual relates directly to the quest for rationality. To be rational is to have "an attitude of readiness to listen to critical argument and to learn from experience" ¹⁷². Thus the root of reason lies in discussion and dialogue. This

makes implicit in rationalism a recognition of common humanity. Criticism is the source of the advance of knowledge and it can and must come from anybody. Consequently there is a tendency for rationalism to be anti-authoritarian. Popper denounces the authoritarian attitude in these words:

This authoritarian intellectualism, this belief in the possession of an infallible instrument of discovery ... this failure to distinguish between a man's intellectual powers and his indebtedness to others for all he can possibly know or understand ...¹⁷³.

His point is that: "... we not only owe our reason to others, but we can never excel others in our reasonableness in a way that would establish a claim to authority..."¹⁷⁴.

Popper expresses the advantages of rational discussion for an open society: "But the tradition of rational discussion creates, in the political field, the tradition of government by discussion, and with it the habit of listening to another point of view; the growth of a sense of justice; and the realism to compromise"¹⁷⁵. Society must be open and free for "Truth is not manifest"¹⁷⁶. For Popper, the search for truth demands the following: (i) imagination, (ii) trial and error, (iii) the gradual discovery of our prejudices through (i) and (ii), and (iv) critical discussion.¹⁷⁷ Translated into the political field, government would involve discussion, listening to other viewpoints, a sense of justice and a preparedness to compromise. It is not that the method of critical discussion establishes truth nor that it secures agreement; we are fallible men.¹⁷⁸ However, through discussion we can change our minds and become wiser men.¹⁷⁹

Even rulers are bound to make mistakes. Therefore rational government is only possible if all are subject to criticism so that mistakes are noted and modifications made. The fundamental principle is how to control leaders by devising institutional means to balance power.¹⁸⁰

There is a fundamental connection between science and democracy. Induction is invalid; truth emerges progressively through criticism and by attempts to refute theories,

a process excluding no-one. This is why the growth of knowledge needs democracy - the free flow of ideas and criticism.¹⁸¹

The democratic or open society may not be the best system ever invented, but it is the most practical scheme so far invented and one that is capable of constant improvement and refinement.¹⁸² It is the most effective means available to us to preserve freedom and restrain tyranny.¹⁸³

How does Popper view the state? He sees it as a society with minimal functions: the prevention of crime, the protection of the weak (in both the physical and economic sense) and the restraint of physical and economic bullying.¹⁸⁴ The state in the open society is a protective institution structured to fight against "... concrete evils rather than to establish some ideal good"¹⁸⁵. Popper sees the state as "a necessary evil"¹⁸⁶. Therefore it should not be expected to confer benefits on its citizens; rather, firstly, it "provides no more than a framework within which the citizen may act in a more or less organized and coherent way"¹⁸⁷. Secondly, because of what is known as the "paradox of freedom"¹⁸⁸ the state must be empowered to intervene in certain limited areas of political and economic life¹⁸⁹ - a form of interventionism. Thirdly, the state's reform programme should be one of "piecemeal reform". Immediate and specific problems involving the economy should be tackled by a method of trial and error, achieving improvements but never claiming perfection.¹⁹⁰ Popper comments: "But he [the politician] will be aware that perfection, if at all attainable, is far distant, and that every generation of men, and therefore also the living have a claim ..." ¹⁹¹. The piecemeal social engineer does not search for ultimate good for reasons linked to the growth of knowledge as a major factor governing the course of history. We cannot anticipate today what we shall only know tomorrow.¹⁹² Social and political developments are so influenced by scientific developments that it is impossible to have a theoretical history (or for that matter a theoretical social science) which will enable us to make historical

and societal predictions. Popper does not deny that under suitable circumstances we may make short-term predictions.¹⁹³ However, the essential point is that the growth of knowledge is a major factor in determining historical and societal development.

At the same time, the open society has to oppose moral and intellectual relativism. Moral relativism becomes a barrier to rational progress. Thus we cannot assume that our present standards are the right ones and beyond criticism¹⁹⁴ nor that differing standards are merely relative. We have, rather, to keep up an endless quest for moral improvement through self-examination and self-correction. A “dualism of facts and decisions”¹⁹⁵ means that norms may not be derived from facts or actual historical events.¹⁹⁶ Man has to accept moral responsibility for the decisions that he makes.¹⁹⁷ This means that our values determine the means by which we identify our actions and the means by which we judge them. Rationality plays an essential part in morality and thus moral progress involves the opening of a new range of possible values.¹⁹⁸ The open society also values tradition. Piecemeal social reform has the background of social institutions as its basis for criticism and improvement.¹⁹⁹ What is necessary for scientific progress²⁰⁰ also has its social counterpart. Popper expresses the social value of tradition thus: “Traditions are needed for a link between institutions and the intentions and valuation of individual men.”²⁰¹ This means that existing institutions are modified and changed rather than replaced. Therefore the open society is evolutionary rather than revolutionary.²⁰² A practical application of Popper’s social and political theories to the present is provided by Roger James in his book, *Return to Reason*. In this work James proposes Popper’s open society as a remedy for many contemporary and social ills which are at root philosophical in nature. These are five in number.

Firstly, there is what he calls “solutioneering”²⁰³, that is, preparing a solution before carefully formulating a problem and establishing a criterion by which success or failure is to be judged. Secondly, there is “tunnel vision”²⁰⁴ where possible snags in reform

programmes are ignored rather than diligently sought for and corrected. Thirdly, “trendism”²⁰⁵ confuses laws with trends. This means that one cannot expect that the trends witnessed in one historical period will continue indefinitely in other periods. Fourthly, there is the failure to realise that theories cannot be confirmed by finding any number of facts that support them.²⁰⁶ Popper calls this error “white swanning”, that is, any number of white swans will not confirm that all swans are white, while only one non-white swan will refute the theory.²⁰⁷ Theories cannot be verified, only corroborated. Fifthly, there is the failure to distinguish between well corroborated scientific theories and what James calls “unsubstantiated speculations”.²⁰⁸

It is obvious that James is highlighting some of the central issues in Popper’s thought. There is, moreover, a unity between his scientific and political thought. James’ five “philosophical errors” relate to the overall importance of rational criticism, the trial and error method, historicism, the failure of induction as *the* scientific method and the necessary demarcation between scientific and non-scientific theories.

The growth of all knowledge is evolutionary, the method of gaining knowledge is hypothetico-deductive (*not* inductive) and the aim of knowledge is truth; likewise for society.

The next chapter investigates the concept of “evolutionary openness” as Popper’s overall method. What does he mean by “openness”? What are its roots? Is it his overall scientific method? These are some of the issues to be tackled.

FOOTNOTES

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- 1 K. Popper, *The Open Society and its Enemies* Part II, p.225.
- 2 *Ibid.*, p.227.
- 3 *Ibid.*
- 4 K. Popper, *The Logic of Scientific Discovery*, p.39; *Conjectures and Refutations*, pp. 116-117.
- 5 *Ibid.*, pp. 34-44; K. Popper, "Replies to my Critics", in *The Philosophy of K. Popper*, p.976.
- 6 K. Popper, *The Open Society and its Enemies* Part II, p.224.
- 7 *Ibid.*
- 8 K. Popper, *Conjectures and Refutations*, pp. 148-149.
- 9 *Ibid.*, p.129.
- 10 K. Popper, *The Poverty of Historicism*, pp.68; 84-87.
- 11 K. Popper, "The Poverty of Historicism", in *A Pocket Popper*, pp. 292-295; 304-318; 335-337.
- 12 K. Popper, *The Open Society and its Enemies* Part II, p.242.
- 13 *Ibid.*, Part I, p.63.
- 14 *Ibid.*, p.64.
- 15 *Ibid.*, p.63.
- 16 K. Popper, "Autobiography of Karl Popper", in *The Philosophy of Karl Popper* Book 1, p.155.
- 17 *Ibid.*
- 18 K. Popper, *The Poverty of Historicism*, p.136.
- 19 K. Popper, *The Open Society and its Enemies* Part I, p.100.
- 20 K. Popper, *The Poverty of Historicism*, p.136.
- 21 *Ibid.*, pp.29-31. "For Methodological Nominalists hold that the task of science is only to describe how *things* (*my emphasis*) behave ... For they regard words merely as *useful instruments of description*". K. Popper, *Poverty of Historicism*, p.29.
- 22 *Ibid.*, p.30.
- 23 "Methodological essentialists are inclined to formulate scientific questions in such terms as 'What is matter?' or 'What is force?' or 'What is justice?' and they believe that a penetrating

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- answer to such questions, revealing the real or essential meaning of these terms and thereby the real or true nature of the essences denoted by them, is at least a necessary prerequisite of scientific research, if not its main task" K. Popper, *Poverty of Historicism*, p.29.
- 24 C. Perry, "Popper, Winch and Individualism", p.68.
- 25 K. Popper, *The Open Society and its Enemies* Part I, p.121.
- 26 *Ibid.*, Part II, p.237.
- 27 K. Popper, *Poverty of Historicism*, p.91.
- 28 K. Popper, *The Open Society and its Enemies* Part II, p.237.
- 29 K. Popper, *Conjectures and Refutations*, pp.360-361.
- 30 K. Popper, Note to "Two Kinds of Definitions", in *A Pocket Popper*, p.405.
- 31 K. Popper, *The Open Society and its Enemies* Part II, p.227.
- 32 K. Popper, *The Poverty of Historicism*, p.161.
- 33 "... I mentioned a tendency which can be observed in a group of modern philosophies, the tendency to unveil the hidden motives behind our actions. The sociology of knowledge belongs to this group, together with psycho-analysis and certain philosophies which unveil the 'meaninglessness' of the tenets of their opponents ... these ideas are liable to destroy the intellectual basis of any discussion, by establishing what I have called 're-inforced dogmatism'...". K. Popper, *The Open Society and its Enemies* Part II, p.215.
- 34 *Ibid.*, p.216.
- 35 *Ibid.*, pp.222-223.
- 36 Two of the most trenchant criticisms are: J. Wild, *Plato's Modern Enemies and the Theory of the Natural Law*, and R. Levinson, *In Defence of Plato*.
- 37 K. Popper, *Poverty of Historicism*, p.48.
- 38 *Ibid.*, p.51.
- 39 *Ibid.*, p.50.
- 40 K. Popper, *The Open Society and its Enemies* Part I, p.3.
- 41 *Ibid.*, p.8.
- 42 *Ibid.*
- 43 *Ibid.*, p.151.
- 44 *Ibid.*, pp.21, 25, 39 and 87.

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- 45 *Ibid.*,p.39.
- 46 *Ibid.* p.89.
- 47 *Ibid.*, p.119.
- 48 *Ibid.*, pp. 112-113.
- 49 *Ibid.*, p.90.
- 50 *Ibid.*, p.107.
- 51 K. Popper, *The Poverty of Historicism*, p.82.
- 52 *Ibid.*
- 53 *Ibid.*, p.195.
- 54 *Ibid.*, p.180.
- 55 K. Popper, *The Open Society and its Enemies* Part II, p.98.
- 56 K. Popper, *Objective Knowledge*, p.209.
- 57 A. O'Hear, *Karl Popper*, p.162.
- 58 K. Popper, *The Open Society and its Enemies* Part I, p.94.
- 59 *Ibid.*
- 60 K. Popper, *The Poverty of Historicism*, p.29.
- 61 K. Popper, *The Open Society and its Enemies* Part I, p.120.
- 62 Popper is in effect saying that it is only when essentialism is abandoned and replaced by nominalism that real advance in science takes place.
- 63 K. Popper, *The Open Society and its Enemies* Part I, p.121.
- 64 *Ibid.*, p.125.
- 65 *Ibid.*, p.138.
- 66 *Ibid.*, p.83.
- 67 *Ibid.*, p.83.
- 68 *Ibid.*, p.150.
- 69 *Ibid.*, p.185.
- 70 *Ibid.*, p.158.
- 71 *Ibid.*

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- 72 K. Popper, *The Open Society and its Enemies* Part II, p.280.
- 73 K. Popper, *The Open Society and its Enemies* Part I, p.164.
- 74 *Ibid.*, p.63.
- 75 *Ibid.*
- 76 *Ibid.*, pp.75-76.
- 77 J. Wild, "Popper's Interpretation of Plato", in *The Philosophy of Karl Popper* Book 2, p.860.
- 78 K. Popper, *The Open Society and its Enemies* Part I, p.61.
- 79 *Ibid.*, p.65.
- 80 K. Popper, *The Open Society and its Enemies* Part II, pp.385-386.
- 81 K. Popper, *The Open Society and its Enemies* Part I, p.175.
- 82 *Ibid.*, p.176.
- 83 *Ibid.*
- 84 *Ibid.*, p. 185.
- 85 *Ibid.*, p.200.
- 86 K. Popper, *The Open Society and its Enemies* Part II, pp.27-80.
- 87 G. Ryle, Review of "The Open Society and its Enemies" by K. Popper, p.171.
- 88 K. Popper, *The Open Society and its Enemies* Part II, p.2.
- 89 *Ibid.*, pp. 4-6.
- 90 *Ibid.*, p.11.
- 91 *Ibid.*, p.14.
- 92 *Ibid.*, pp. 14-19.
- 93 K. Popper, *The Poverty of Historicism*, p.29.
- 94 *Ibid.*, p.30.
- 95 K. Popper, *The Open Society and its Enemies* Part 2, p.21.
- 96 *Ibid.*, pp. 36-37.
- 97 *Ibid.*, p.39. See also *Conjectures and Refutations*, pp. 312-335.
- 98 *Ibid.*, p.40.
- 99 *Ibid.*

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- 100 *Ibid.*, p.39.
- 101 *Ibid.*, p.47.
- 102 *Ibid.*, p.41.
- 103 *Ibid.*
- 104 *Ibid.*
- 105 *Ibid.*, p.206.
- 106 K. Popper, *The Poverty of Historicism*, pp.53-54.
- 107 K. Popper, *The Open Society and its Enemies* Part I, pp.62-63.
- 108 *Ibid.*, p.66.
- 109 One of the best is M. Cornforth, *The Open Philosophy and the Open Society*.
- 110 K. Popper, *The Open Society and its Enemies* Part 2, p.104.
- 111 *Ibid.*, p.103.
- 112 *Ibid.*, p.104.
- 113 *Ibid.*, p.204.
- 114 *Ibid.*, p.111.
- 115 *Ibid.*, p.108.
- 116 *Ibid.*, p.89. See also K. Marx, *Preface to the Contribution to the Critique of Political Economy*, p.329.
- 117 *Ibid.*, p.113.
- 118 *Ibid.*, p.114.
- 119 *Ibid.*, p.107.
- 120 *Ibid.*, p.208.
- 121 *Ibid.*, pp.208-209.
- 122 *Ibid.*, p.216.
- 123 *Ibid.*, p.235.
- 124 *Ibid.*, p.264.
- 125 *Ibid.*, p.268.
- 126 *Ibid.*, p.269.

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- 127 *Ibid.*, p. 280.
- 128 *Ibid.*, pp. 132-22.
- 129 *Ibid.*, p. 280.
- 130 The term "historicism" proved to be highly controversial. Popper adopted it to avoid what he called "verbal quibbles." However, it has been denounced by many scholars. For details of the controversy see A. Donogan, "Popper's examination of Historicism", P. A. Schlipp, *The Philosophy of Karl Popper* Book 2, pp. 905-909.
- 131 K. Popper, *The Poverty of Historicism*, p.3.
- 132 R.D. Shaw, "Popper, Historicism, and the Remaking of Society", p.299.
- 133 Shaw says accurately, I think, that limited historicism is the target in *The Poverty of Historicism*, sections 5, 6, and 11; radical historicism in *The Poverty of Historicism*, section 18 and throughout *The Open Society and its Enemies*. See Note 1 in R.D. Shaw, "Popper, Historicism, and the Remaking of Society", p.308.
- 134 K. Popper, *The Poverty of Historicism*, pp.128-9.
- 135 *Ibid.*, p.66-76.
- 136 *Ibid.*, p.42.
- 137 *Ibid.*, pp.130-135; for the word "naturalist" p.2.
- 138 A. Donogan, "Popper's Examination of Historicism", p.909.
- 139 K. Popper, *The Poverty of Historicism*, p.6.
- 140 *Ibid.*, p.99.
- 141 *Ibid.*, p.102.
- 142 *Ibid.*, p.18.
- 143 *Ibid.*, p.74; 77.
- 144 *Ibid.*, pp. 81-2.
- 145 *Ibid.*, p.90.
- 146 K. Popper, *Conjectures and Refutations*, p.361. See also *Poverty of Historicism*, p.91.
- 147 Historicism, as we have already seen, has no necessary close connection with large scale planning. Historically they have often gone together, but logically they should be kept apart.
- 148 K. Popper, *The Poverty of Historicism*, p.102.

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- 149 *Ibid.*, p.70.
- 150 *Ibid.*, p.12.
- 151 *Ibid.*, p.136.
- 152 *Ibid.*
- 153 *Ibid.*, pp. 35-36.
- 154 *Ibid.*, p.39.
- 155 *Ibid.*, p.36.
- 156 *Ibid.*, p.37.
- 157 *Ibid.*, p.38.
- 158 *Ibid.*, p.42.
- 159 *Ibid.*, p.41.
- 160 *Ibid.*, p.108.
- 161 *Ibid.*, p.109.
- 162 *Ibid.*, p.115.
- 163 *Ibid.*
- 164 *Ibid.*, p. vi.
- 165 K. Popper, *Conjectures and Refutations*, p.366.
- 166 *Ibid.*, p.367.
- 167 *Ibid.*, p.366.
- 168 *Ibid.*, p.375.
- 169 K. Popper, *The Open Society and its Enemies* Part I, p.174. See also *Poverty of Historicism*, p.136.
- 170 K. Popper, *The Poverty of Historicism*, p.28-29.
- 171 *Ibid.*, p.136.
- 172 K. Popper, *The Open Society and its Enemies* Book 2, p.225.
- 173 *Ibid.*, p.227.
- 174 *Ibid.*, p.226.
- 175 K. Popper, *Conjectures and Refutations*, p.352.

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- 176 *Ibid.*, p.7. See also *The Poverty of Historicism*, p.117.
- 177 *Ibid.*, p.352.
- 178 "Fallibilism ... implies that, though we may seek for truth and though we may even find truth (as I do believe we do in very many cases), we can never be certain that we have found it. There is always the possibility of error ... we must search for our mistakes - or in other words, (that) we must try to criticize our theories." K. Popper, *The Open Society and its Enemies* Part II, pp.375-6.
- 179 K. Popper, *Conjectures and Refutations*, p.352.
- 180 K. Popper, *The Open Society and its Enemies* Book 1, p.122.
- 181 "If the growth of reason is to continue, and rationality to survive, then the diversity of individuals and their opinions, aims, and purposes must never be interfered with ..." K. Popper, *The Poverty of Historicism*, p.159.
- 182 K. Popper, *Conjectures and Refutations*, p.369.
- 183 *Ibid.*
- 184 K. Popper, *The Open Society and its Enemies* Book 1, p.125.
- 185 *Ibid.*, p.130.
- 186 K. Popper, *Conjectures and Refutations*, p.350.
- 187 *Ibid.*, pp.350-1.
- 188 "Freedom, as we have seen, defeats itself if it is unlimited... . This is why we demand that the State should limit freedom to a certain extent, so that everyone's freedom is protected by law." K. Popper, *The Open Society and its Enemies* Book 2, p.124.
- 189 Popper gives a list of what he regards as some of the greatest social evils which may be remedied by social co-operation. They are poverty, unemployment and some similar forms of social insecurity, sickness and pain, penal cruelty, slavery and other forms of serfdom, religious and racial discrimination, lack of educational opportunities, rigid class differences, war.
- 190 K. Popper, *The Open Society and its Enemies* Part I, p.158.
- 191 *Ibid.*
- 192 K. Popper, *The Poverty of Historicism*, p.182.
- 193 *Ibid.*, pp.66-70.
- 194 Ethical positivism teaches that the existing laws are the only real standards of goodness. see: K. Popper, *The Open Society and its Enemies* Book 1, p.71.

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- 195 K. Popper, *The Open Society and its Enemies* Book 1, p.63.
- 196 *Ibid.*, p.64.
- 197 *Ibid.*, p.61.
- 198 *Ibid.*, p. 65.
- 199 K. Popper, *The Poverty of Historicism*, p.69.
- 200 K. Popper, *Conjectures and Refutations*, p.352.
- 201 *Ibid.*, p.351.
- 202 *Ibid.*
- 203 R. James, *Return to Reason*, p.3.
- 204 *Ibid.*, p.4.
- 205 *Ibid.*
- 206 *Ibid.*
- 207 K. Popper, *Logic of Scientific Discovery*, p.27.
- 208 R. James, *Return to Reason*, p.4.

CHAPTER SIX

POPPER'S OVERALL METHOD: EVOLUTIONARY OPENNESS

6.1. THE MEANING OF "OPENNESS"

Popper's autobiographical *Unended Quest* provides a starting-point in the search for the meaning of "openness" in Popper's thought. The early Popper adopted what he called "methodological nominalism" as opposed to "essentialism".¹ Popper defined methodological nominalism as the belief that "the task of science is only to describe how things behave... they regard words merely as useful instruments of description."²; while essentialism believes that the scientific researcher's prerequisite is "revealing the real or essential meaning of these terms [i.e., definition] and thereby the real or true nature of the essences denoted by them."³ A concern for meaning is therefore essentialist and, for Popper, restrictive.

Popper denies that there is any real truth in the widely held theory that "the meaning of a thing (provided it is grammatically and unambiguously formulated) is a function of the meaning of the words in which the theory is formulated"⁴. Rather, he states: "The relationship between a theory (or a statement) and the words used in its formulation is in several ways analagous to that between written words and the letters used in writing them down"⁵ or expressed somewhat differently, "The quest for precision is analagous to the quest for certainty, and both should be abandoned."⁶

Popper expresses his position clearly: "In matters of the intellect, the only things worth striving for are true theories, or theories which come to near to truth - at any rate, nearer than some other (competing theory)...".⁷ The quest for truth, rather than meaning or certainty, is the first clarification of the Popperian term "openness". A prerequisite for this quest is intellectual and scientific humility. This humility is itself a form of openness if dogmatism may be the characteristic form of "closedness"⁸ (my term). Popper expresses what this "humility" involves: "... I am deeply aware of my, and more generally our, lack of knowledge... I have always held that all our alleged knowledge consists, in reality, of guesswork, and that the best of it consists of guesswork controlled by rational criticism."⁹

The meaning of openness as a concept is therefore closely related to critical rationalism. Popperian rationalism accepts that knowledge never starts from firm foundations, but progresses from an uncertain starting point.¹⁰ It may be characterized as "an attitude of readiness to listen to critical arguments and to learn from experience".¹¹ Indeed, as Popper expresses it: "There is no better synonym for 'rational' than 'critical'".¹² To be rational is to be open to the viewpoints of others and to the growth of knowledge.

The growth of knowledge is a key concept in the always tentative struggle towards rationality and truth. It involves the constant overthrow of scientific theories by severe testing and their replacement by better theories.¹³ It is, however, always an objective, and never a relative, search for truth since truth is understood as correspondence to facts.¹⁴ In a real sense it is always an "open" truth, for the human subject can never know whether he has reached it or not.¹⁵ Therefore Popper sees truth as a "regulative principle".¹⁶ This means that it has no absolute form or limits - it is open-ended.

Popper's epistemological openness entails an openness in all areas of reality, that is, physics, human psychology (perception), evolution (indeterminism), biology, social

science and politics.

In the area of science, induction is rejected and replaced by falsification. This means that no infinite number of single observation statements can ever logically justify a general or universal statement.¹⁷ On the other hand, it must be possible for one basic statement (a so-called “potential falsifier”) to falsify a theory.¹⁸ This means that there is no final, certain, demonstrative knowledge; rather, knowledge is hypothetical or conjectural but nevertheless “real” or “objective” in that it can describe aspects of reality.¹⁹ Here is the dichotomy that Popper calls “fallibilistic absolutism”²⁰: we cannot “know” in the traditional subjective sense (the quest for certainty), but objective or absolute truth is, nevertheless, there as a regulative standard.²¹ Scientific knowledge is thus never then “justified belief”, but always conjectural:²² theories (conjectures) are formulated in answer to problems, severely tested by the method of trial and error and either “falsified” (refuted) or “tentatively accepted”.²³ Some theories may therefore be better than others, that is, they have stood up to tests better than previous theories. They are then said to be better “corroborated” theories.²⁴ This means that they are still “open” in the sense that they have not *yet* been falsified. However, Popper’s term “verisimilitude” permits us to speak of one theory as being nearer to the truth than another theory even if it is false.²⁵ Moreover, verisimilitude allows us to speak of making progress towards the truth. The truth lies ahead: always striven for but never attained with certainty. As Popper expresses it: “We must go on into the unknown, the uncertain, and insecure...”.²⁶ In the physical sciences thus, openness means a tentative, uncertain growth in knowledge, a moving towards truth.

The same qualities apply to Popper’s psychological theory of perception. Observation in the traditional sense is certain only if the mind is a *tabula rasa*, a clean slate, capable of pure observation. Popper calls this the “bucket theory of the mind”²⁷ (p.101). Popper dismisses this theory for it fails to distinguish between subjective and objective

knowledge.²⁸ He proposes instead a “searchlight” theory of knowledge.²⁹ He means that observation is always “theory-impregnated” and takes place within a pre-existing framework of previous theories. This makes perception only conjectural and subject to criticism and correction. Popper proposes that observation does not produce theories; theories are always there. Rather, observation invites us to modify and correct theories by rigorous testing. With Kant, Popper believes that the intellect forms and shapes our perception of nature ³⁰:

...every description (and even every perception), and therefore every true description is (a) selectivity omitting many aspects of the knowledge described; and (b) argumentative in that it transcends its evidence by adding a hypothetical dimension...³¹

Episteme or absolute knowledge is not logically, scientifically or psychologically possible. Popper has demonstrated that the quest for certain or absolute knowledge leads either to scepticism or dogmatism.³² Truth is, rather, an open-ended quest, a future directed thrust into the unknown.

Popper’s open-ended objectivist search for truth is clearly allied to the Darwinian theory of evolution through natural selection.³³ Animal organisms are concerned with the problem of survival;³⁴ human organisms usually formulate their problems linguistically and consequently make them open to criticism and modification.³⁵ Although human knowledge is continuous with animal knowledge, it has the following distinctive qualities: continual growth³⁶, development outside the organism³⁷ and the emergence of human language³⁸. The descriptive and especially the argumentative functions of human language open the human organism to reasoning and rationality.³⁹

The growth of knowledge progresses then to problems of increasing depth and complexity. This depth and complexity means that the world is inventive and creative and opens up to that which is new, that is, to that which has not been before. Popper comments:

I suggest that the universe and its evolution is creative, and that the evolution of sentient animals with conscious experience has brought about something new With the emergence of man, the creativity of the universe has become obvious. For man has created a new objective World, the World of the product of the human mind; a World of myths, of fairy tales and scientific theories; of poetry and of music...⁴⁰

The emergence of the human organism has created a new world - World 3 whose products are the theories of the human mind. Human knowledge has transcended its creator to become "autonomous"⁴¹ by generating problems that are in fact uninspired and unsolved by man⁴². In this sense World 3 has transcended man, opening up the universe to that which cannot be foreseen.

Popper proposes that man's transition to openness was achieved by the growth of human language⁴³ (especially the descriptive and argumentative function⁴⁴); in response to the demands of language the brain became enlarged⁴⁵ and man thus reached self-consciousness⁴⁶. The self-conscious mind is a product of the brain. It is something that has transcended the brain and its activities direct the brain's processes.⁴⁷ The self, as an emergent property of the brain, cannot be "reduced" to the physical brain.⁴⁸ With the emergence of the self (anchored in World 2) and its products (World 3) there are now three worlds⁴⁹ (p.111-114) in constant interaction through World 2,⁵⁰ the world of mental processes. These worlds are not self-contained, but causally open to one another. Openness, then, relates to evolution by Darwinian natural selection and the consequent emergence of products of World 1 (the physical World): the self-conscious mind (World 2) and the products of the self-conscious mind (World 3). This means that the natural world is not closed or determined but open to creativity and novelty.

Indeed, Popper's universe is an open, indeterminate physical system with some form of what he calls "plastic control"⁵¹ which allows for controlled freedom rather than sheer chance.⁵² Propensities⁵³ are dispositional properties. They are real forces which in part "determine" undetermined events. Popper in effect proposes that freedom and nature interact.⁵⁴ Openness in the Popperian sense means indeterminism (albeit in a

modified form), creativity, complexity and emergence.

We now turn to the social sciences. Methodologically, critical rationalism is the weapon of all sciences - physical, biological and social. Through trial and error, that is, the formulation of hypotheses, in principle falsifiable and subject to severe testing against the background of earlier development, knowledge of society grows. In the social field, openness is closely related to the rise of democracy and freedom; "closedness" to authoritarianism, holism and various forms of Utopianism. Plato's political doctrine is closed because it aims to arrest change and return to the static tribal society.⁵⁵ Moreover, Plato's "Republic" is an ideal society for it is more perfect than that which follows.⁵⁶ In addition the "Republic" is collectivist and exists independently of its members.⁵⁷ Popper's open society, on the other hand, exists for the good of the individuals who comprise it.⁵⁸

The root of the problem in the "closed" society of Plato (and, indeed, of Hegel and Marx as well) is, according to Popper, "methodological essentialism"⁵⁹ the fundamental concern of which is: "who should rule?" Popper's concern is, rather, how to control possibly incompetent rulers.⁶⁰ Consequently, the perfect society and perfect rulers are not legitimate concerns; rather, the evolution of a better society through piecemeal social engineering is the rational approach.⁶¹ Consequently, the holistic approach which begins with a "blueprint" of how society should be is irrational.⁶² Its concern is meaning and definition, not criticism - it lacks openness.

Similarly, Historicism aims to determine the historical laws by which societies change and develop.⁶³ Popper rejects the possibility of discovering these laws: firstly, the growth of knowledge cannot be predicted by rational means; secondly, the growth of future knowledge must influence the course of history.⁶⁴ Moreover, the growth of society depends upon individuals who through their acceptance of responsibility

determine its future course.⁶⁵ Thus man, rather than history, is responsible. Society cannot be rational or open (synonymous terms) without the individuals who, through critical discussion and dialogue, open it to piecemeal improvement. Consequently, the open or democratic society is capable of continual modification and improvement. Openness in the societal sense thus entails democracy, individual responsibility and piecemeal social engineering.

This section has been concerned to discover the meaning of openness in all the aspects of Popperian concern. In the next section the roots of openness will be analyzed. They are five fold: rationality, anti-inductionism, Darwinian natural selection, indeterminism and individualism.

6.2. THE ROOTS OF OPENNESS

The most important of Popper's aphorisms is: "The central mistake... is the quest for certainty".⁶⁶ Popper relates in *Unended Quest* how Einstein's criticism of Newton's theory of gravity convinced him of the very uncertainty of our knowledge of the external world.⁶⁷ Popper later rejects all attempts at the justification of knowledge and sees criticism as a viable alternative.⁶⁸

The primary root of openness in Popper's thought is critical rationalism, which pervades every aspect of his creed. Consequently, the quest for rationality will be the first root discussed.

Popper's indebtedness to Socrates is well known. Rationalism begins with Socratic doubt. For this reason Popper regards his encounter with Marxism as one of the main events in his intellectual development. He comments:

It taught me a number of lessons which I have not forgotten. It taught me the wisdom of the Socratic saying, "I know that I do not know." It

made me a fallibilist and impressed on me the value of intellectual modesty. And it made me conscious of the differences between dogmatic and critical thinking.⁶⁹

Fallibilism is the bedrock of rationalism. It implies that, although the search for truth will never give the certainty of success, every detected mistake is an advance in knowledge.⁷⁰ Critical rationalism is not classical scepticism but rather a type of creative doubt. This means that knowledge is possible but not certain knowledge. All knowledge, then, is provisional and open to subsequent correction and refutation or overthrow. The quest for certainty is indeed the enemy of truth. Truth and its handmaid, rationality, are intrinsically open: "an attitude of readiness to listen to critical arguments and learn from experience."⁷¹ Critical rationalism, therefore, rejects any dogmatic authority: the authority of the intellect or the senses⁷²; the authority of historicism⁷³ and the authority of an Utopian blueprint of society⁷⁴.

J. Bronowski expresses his appreciation of Popper's concept of the growth of knowledge in these words:

He (Popper) does not write of science as a finished enterprise, and he does not think of it (even unconsciously) as an enterprise that could ever be finished. In his exposition science is systematic; yet it is a perfectly open system; it is constantly changed and enlarged. Year by year it goes to embrace more of nature, and yet there is no vision of an ideal society that might embrace the whole of nature.⁷⁵

Critical rationalism will never allow us to "justify" our theories; through criticism we can, however, justify our preference for one theory as opposed to another. Consequently, knowledge is conjectural rather than either justified or absolute. In replacing justification by criticism, Popper breaks the "closed " approach to rationality and opens it to evolutionary growth. He states his position clearly when he says:

...the old philosophy linked the idea of rationality with final, demonstrative knowledge...while I linked it with the *growth of conjectural knowledge*. This itself I linked with the idea of a better and better approximation to truth *or of increasing truthlikeness or verisimilitude*. According to this view, finding theories which are better approximations to truth is what the scientist aims at; the aim of science is knowing more and more. This *evokes the growth of the content of our theories*, the growth of knowledge of the World.⁷⁶

In short, Popper is stating that rationality is the growth of conjectural knowledge rather than the attainment of absolute knowledge. Rationality presupposes an attitude of openness to permit growth at root. Firstly, it “presupposes a certain attitude of intellectual humility”⁷⁷ which is exemplified by Socrates⁷⁸. Secondly, rationality

...is an attitude of readiness to listen to critical arguments and to learn from experience. It is fundamentally an attitude of admitting that ‘I may be wrong and you may be right’, and by our effort, we may get nearer to the truth.⁷⁹

Thirdly, as Popper’s account of rationality is fundamental both in the context of a theory of knowledge and in his critique of totalitarianism, according to Popper rationality established “the unity of mankind”⁸⁰. There is a link then between rationalism and humanitarianism. Thus Popper’s commitment to rationalism is based on respect for persons, especially the individual. It is essentially democratic, for the other is seen as a potential source of dialogue and information.⁸¹

Critical rationalism is never merely theoretical. It has an empirical or experiential basis whether it is related to the natural or social sciences.⁸² The trial and error method is applicable to both disciplines: in neither does it lead to certain knowledge. The very reality on which both are based is uncertain and tentative.⁸³

Scientific knowledge progresses then to deeper and more complex problems through error-elimination and consequent adjustment.⁸⁴ Societal knowledge progresses similarly; by trial and error adaptation it uses piecemeal social engineering⁸⁵ in order to improve society gradually and open it to democracy and truth. It eschews an essentialism which provides a static “blueprint” for society,⁸⁶ embracing rather a society that does not search for ultimate good but for the banishment of evil and suffering.⁸⁷

Popperian critical rationalism insists that there is no final sanction or authority for knowledge in either the natural or the social sciences. The only knowledge is that which

is open and consequently free to change or to grow and become more truthlike. Critical rationalism is guided by the insight that to be reasonable is to be open to what is other than oneself. This rationalism leads mankind on the road to problems and insights of increasing depth and complexity which sometimes attain, but never know, "truth". In this sense truth is open.

Popper's arguments against induction will now provide a further logical and scientific ground for openness. If we cannot logically "verify" but only "falsify", truth is always beyond us.

The problem of induction is how we gain theoretical knowledge from experience. Popper's answer is a totally negative one, that is, experience never validates an hypothesis.⁸⁸ This means that there is no logical justification for reasoning from empirical phenomena of which we have experience to other similar phenomena of which we have no experience. Popper derives this argument from Hume. Hume writes that we have no reason to believe "that those instances of which we have no experience [are likely to] resemble those of which we have had experience."⁸⁹ Popper calls this "Hume's [logical] problem of induction".⁹⁰ He also rejects Hume's psychological theory of induction which led humans [irrationally as Hume believed] to believe in natural regularities through the observation of repetition.⁹¹

Popper proposes that the logical problem of induction arises from: (a) Hume's discovery that no universal law, since it transcends experience, may be justified by observation and experience, (b) the regularity in scientific laws and (c) the strong empirical basis of science which asserts that scientific statements may be accepted or rejected only on the basis of observation and experiment.⁹² Popper denies that (a) to (c) clash:

We can see this the moment we realise that the acceptance by science of a law or a theory is *tentative only*; which is to say that all laws and

theories are conjectures, or tentative hypotheses... and that we reject a law or theory on the basis of new evidence, without necessarily discarding the old evidence which originally led us to accept it...

The principle of empiricism (c) can be fully preserved, since the fate of a theory, its acceptance or rejection, is decided by observation and experiment - by the result of tests. So long as a theory stands up to the severest tests we can design, it is accepted; if it does not, it is rejected.⁹³

Popper repudiates induction in the strongest terms⁹⁴ for induction gets the stages of knowledge acquisition in the wrong order. It proposes that observation comes first (the mind is choosing all theories and expectations). Once there are sufficient observed data a generalisation is made. Therefore Popper replaces induction by deduction for the above reason.

He proposes that scientific statements are logically differentiated from statements describing specific events.⁹⁵ Two different kinds of statements are thus necessary for a causal explanation. They are "universal statements" (hypotheses) and "singular statements" (also called initial entities as they apply to a specific event). It is from the universal statement used in conjunction with the singular statement that a scientific theory is deduced.⁹⁶

Popper's logico-deductive theory has exposed the basis of scientific openness. Induction sought to *justify* knowledge while Popper's deductive system seeks only to eliminate *false* theories by observational statements: "... [there is a] purely logical relationship of deductibility which allows us to assert the falsity of universal statements if we accept the truth of singular ones..."⁹⁷.

Hume's second problem of induction was psychological. Popper dismisses the problem as primitive.⁹⁸ He distinguishes between an irrational tendency imposed by habit and repetition and a rational tendency to try out bold hypotheses and test them.⁹⁹ He states: "The first describes a typically Lamarckian procedure of instruction; the second, a Darwinian procedure of selection. The first one is, as Hume observed, irrational, while

the second seems to have nothing irrational in it.”¹⁰⁰ Non-scientific sociological statements, although in principle not falsifiable (see problem concerning demarcation p.98) can still be submitted to a method of critical examination by trial and error.¹⁰¹ Their hypotheses are related to a context or tradition against which they are critically assessed.¹⁰² Thus piecemeal social engineering is an accepted practical form of the hypothetico-deductive trial and error method.

Popper sees that our whole intellectual development is an unending (hence open) process of adjustment and modification of theories under the pressure of experience.¹⁰³ The growth of knowledge moves effectively when we proceed from problem to problem in attempts to solve them. This non-inductive process gives our knowledge the permanent nature of provisionality. All is open, nothing is permanently established and nothing is unalterable. Our sole concern is to get closer to truth. No theory can ever give the final truth. It is always open to subsequent modification.

It is evident that non-inductive problem solving can also be seen in terms of Darwinian natural selection,¹⁰⁴ that is, the survival of the fittest. Therefore the Darwinian theory provides the third root of openness in Popper’s thought.

By Popper’s own admission the methodology of his theory of the growth of knowledge by trial and error elimination (as contained in *The Logic of Scientific Discovery*) closely resembles that of Darwinian selection. In *The Poverty of Historicism* ¹⁰⁵ he attempts to tackle some epistemological questions concerned with the theory of evolution. Chapter Seven of *Objective Knowledge* was regarded by Popper as an improvement on Darwin.¹⁰⁶ However, he regards the Darwinian theory as not “justifiable or testable scientific theory but rather as a ‘metaphysical research programme’...a possible framework for testable scientific theories.” ¹⁰⁷

Popper notes that the origin of life and the origin of problems are the same¹⁰⁸: a response to what he calls the “logic of situations”.¹⁰⁹ This means that a theory or action is a response to a problem being confronted. Therefore we start with problems and not from observation. The growth of knowledge then proceeds “from old problems to new problems by means of conjecture and refutation”;¹¹⁰ moreover, this method is the same from “the amoeba to Einstein”¹¹¹.

The first problems with which all animals are born are “inborn expectations” which, when disappointed, begin the process of knowledge growth.¹¹² A response to a problem is an hypothesis which is subjected to various pressures and tests: the fit survive and the unfit are eliminated.¹¹³ Popper distinguishes between humans, on the one hand, and animals and pre-scientific knowledge on the other:

Thus, while animal knowledge and pre-scientific knowledge grow mainly through the elimination of those holding unfit hypotheses, scientific criticism often makes our theories perish in our stead, eliminating our mistaken belief before such beliefs lead to our own elimination. ¹¹⁴

Animal evolution is concerned almost exclusively with the question of survival. Humans obey the same laws of evolutionary change. In one sense they are continuous with nature; in another sense they are discontinuous. This is evident when one considers that animal evolution progresses in the form of either the modification of existing behaviour-effecting organs or the emergence of new ones. Human evolution, on the other hand, takes place largely outside the person or its behaviour. It is applied knowledge involving the making of tools and weapons. Thus human evolution evolves towards greater complexity, openness and emergence. Popper tabulates the following levels of emergence in biological evolution:¹¹⁵

World 3 (the products of the human mind)	(6) Works of art and of Science (including Technology)
	(5) Human Language. Theories of Self and of Death
World 2 (the World of subjective experience)	(4) Consciousness of Self and of Death.

World 1 (the World of
physical objects)

- (3) Sentience (Animal Consciousness)
- (2) Living Organisms
- (1) The heavier elements; liquids
and crystals.
- (0) Hydrogen and Helium

He suggests two kinds of behavioural progress - "closed behavioural progress" and "open behavioural progress", the former characteristic of animal behaviour and the latter of human behaviour.¹¹⁶ Open progress allows for alteration and choice and is guided by natural selection as a result of varying environmental pressures. Consciousness emerges in four stages from the open choices. The highest stage is the evolution of language. It is at this stage that the self-conscious mind emerges and man becomes capable of critical thought.¹¹⁷ This self conscious mind is a product of the human brain which it has transcended. It has become something completely different from the brain which it now directs and with which it interacts.¹¹⁸ The evolutionary process cannot be understood "reductively"¹¹⁹ for it is open: "new" unexpected things emerge in what is essentially a creative universe. The new and the unexpected arise partly from what Popper calls "downward causation"¹²⁰, that is, "higher evolutionary development can and does control the behaviour levels from which it has evolved"¹²¹.

At a higher and more open level still the self-conscious mind through critical and conceptual thought, the so-called product of the human mind, transcends itself. These products of the human mind "inhabit" an autonomous World 3 where the degree of openness is so great that it creates certain problems that have not yet and may never be solved.¹²² Each of these three worlds, the physical, the mental, and the objective product of the mind is irreducible to the others. Additionally, there are causal relationships between all three¹²³ for none is self-contained.

A picture emerges of a creative, expanding, evolving, indeterminate universe in which higher organisms and systems are less predetermined and predictable than lower ones. It is a universe that has produced creative man and his self; a universe that has been

powerfully changed by the emergent products of man and is forever open to further creative initiatives. It is a universe that has emerged through applying trial and error natural selectivity to problems of ever greater depth and complexity.

The fourth root of openness is indeterminism. The approximate character of all scientific knowledge, a central theme of Popper's philosophical method, produces the most convincing argument in favour of indeterminism.¹²⁴ Moreover, this highly complex scientific knowledge depends on human fallibility and creativity. Popper comments: "we try to examine the world exhaustively by our nets; but its mesh will always let some fish escape; there will always be enough play for indeterminism."¹²⁵

Popper's indeterminism is not classical indeterminism, that is, perfect chance. It is rather "something indeterminate in character between perfect chance and perfect determinism."¹²⁶ The determinists suffered a blow when atoms were no longer seen as indivisible rigid bodies.¹²⁷ Popper continues:

But the introduction of composite atoms, and sub-atomic particles such as electrons, suggested another possibility: the idea that atomic and molecular collisions may not be of a determinate character...modern physics assumes that there are objectively chance-like events, and objective probabilities or propensities...it seems that the number and complexity of both the different molecules and their properties are unlimited and that they may far transcend the possibilities of deductive explanation.¹²⁸

Chance-like indeterminate events are avoided by a system of "plastic controls".¹²⁹ This means that World 3 objects, like theories and values, can effect physical changes in the universe.¹³⁰ Moreover, Popper introduces propensities in the realm of physics to explain relational properties between things. These relational properties are really existing forces which "influence" undetermined events.¹³¹

Popper believes that indeterminism must make human freedom understandable and therefore he elaborates his theory further.¹³² He seeks to show that the emergence of hierarchial levels or layers (three worlds) depends upon the indeterminism of the

physical universe.¹³³ Each level is open to the causal influences that come from both the lower and to the higher levels.¹³⁴ This means that there is an interaction between the realm of freedom (World 2 and especially World 3) and the physical world (World 1). The physical world is indeterminate and incomplete¹³⁵ but causally open to the world of mental processes and still further towards the transcendent world of the products of the human mind. Human freedom is not random but "deliberate, purposive activity".¹³⁶

It is World 3, the realm of the objects of human knowledge, that establishes for Popper not only the indeterminate nature of the universe but its concomitant quality of openness and incompleteness: "The introduction of objective human knowledge into our universe - the introduction of World 3 - allows us to prove not only the indeterminate character of the universe, but its essential qualities of openness and incompleteness."¹³⁷ The autonomous realm that is World 3 - where there are, in Popper's words, "... problem situations in themselves which have never been produced or understood and may never be produced or understood by men ..." ¹³⁸ - can and does act upon World 1 through World 2. Thus the universe is intrinsically open and creative. It is open to both radical novelty and emergence.¹³⁹ This means that higher level developments cannot be reduced to a mere physical, chemical or biological level. Each successive layer of emergence is unforeseen at the less developed or more primitive levels.¹⁴⁰

Furthermore, all life cannot be explained as properties of matter alone¹⁴¹ for even matter is now understood as a process¹⁴². Popper proposes, instead, that matter has transcended itself.¹⁴³ Thus his arguments for indeterminism are strong. They provide perhaps the strongest arguments for openness and freedom. Popper proposes:

We live in a world of emergent evolution, of problems whose solution, if they are solved, beget new and deeper problems. Thus we live in a world of emergent novelty; of a novelty, which, as a rule is not completely reducible to any of the preceeding stages."¹⁴⁴

The fifth and final root of openness is individualism. The stress on individual

phenomena is deeply embedded in Popper's thought; even in his scientific thought. It has its origin in his early strong methodological opposition to what he calls "essentialism".¹⁴⁵ Essentialism has its origin in a belief in the existence of universals.¹⁴⁶ Popper's World 3 would share certain assumptions with various forms of classical belief in universals.¹⁴⁷ However, his problem concerned what he called "... a deeper and more important problem: the problem of universal laws and their truth...".¹⁴⁸ Popper's scientific difficulty lies not in the existence of universals but in their logical relationship with singular statements: "... there is no induction, because universal theories are not deducible from singular statements. But they may be refuted by singular statements, since they may clash with descriptions of observable facts".¹⁴⁹ While Popper regards Plato as "the discoverer of the third world",¹⁵⁰ his essential problem is Plato's belief that the objects of World 3 are "essences" or "ultimate explanations" rather than theories or problems.¹⁵¹ Popper describes himself as a "methodological nominalist"¹⁵² whose task is, rather, to describe how phenomena behave¹⁵³.

Popper's stress on the individual phenomenon can only be understood as part of his attack on historicism.¹⁵⁴ However, it is historicism's alliance with holism that has particular relevance to the present argument, viz. the importance of individuals. Popper states:

Historicism is interested in the development, not of aspects of social life, but of 'society as a whole'; and Utopian engineering is similarly holistic. Both overlook the important fact...the fact that 'wholes' in this sense are never the object of scientific inquiry...¹⁵⁵

Historicism and Holism see society and its development as something outside and beyond the control of individuals. Popper feels that the task of social theory "... is to construct and analyze our sociological models in descriptive or nominalistic terms, that is to say, in terms of *individuals* (my emphasis), of their activities, expectations, relations etc. - a postulate which may be called 'methodological individualism'...".¹⁵⁶ As noted earlier Plato's closed society was static, tribal and collectivist.¹⁵⁷ Popper

believes that the open society is one in which individuals are confronted with personal decisions.¹⁵⁸

Further, the importance of the individual, too, is related to the struggle for rationality which involves discussion and dialogue and ultimately "... man's power to grow, to transcend himself, not only by the imaginative invention of myths... but also by the rational criticism of his imaginative inventions..."¹⁵⁹. Creative rationalism needs individual intuition and response together with a recognition of a common history. Popper sees the rationalist as "a man who attempts to reach decisions by argument, and perhaps in certain cases by compromise."¹⁶⁰ The rational attitude, moreover, "has an attitude of give and take, and a readiness not only to convince the other man but also possibly to be convinced by him..."¹⁶¹

Society needs the individual response and contribution for: "Truth is not manifest".¹⁶² Popper has shown that the search for truth requires imagination, trial-and-error, gradual discovery of prejudices and critical discussion.¹⁶³ These qualities require responsible individuals. Truth falteringly emerges by rational criticism, discussion and attempts to refute them ; in practice, it excludes no one. Truth is essentially democratic for it arises from the free flow of ideas and their criticism.¹⁶⁴

However, the stress on the individual does not mean intellectual and moral relativism. Relativism is irrational since individuals strive for objective truth. As Popper expresses it:

... there is a kind of truth in this relativistic view of science: science is man-made, and therefore fallible. But the idea of objective and absolute truth is also a man-made idea; and fallibility means that though truth is our supreme standard, we often fall short of it. Truth is therefore a regulative idea: we try to live up to our standards, even though we have *no criteria* by which we could decide whether we have reached them.¹⁶⁵

That the individual should be responsible is at the core of Popper's social doctrine. For this reason our moral norms, though pointing to facts, cannot be derived from facts.¹⁶⁶

This “dualism of facts and decisions”¹⁶⁷ means that norms may not be derived from facts and actual historical events. Man is thus not determined by the “rhythm of history”¹⁶⁸: he has, rather, to accept a moral responsibility for the decisions made¹⁶⁹.

Popper’s philosophy, and indeed, his philosophy of science, rest on the importance and contribution of the free individual. At root it is a humanitarian creed. Bronowski aptly expresses this insight:

For he insisted in his philosophy as much in his human life that there is no final sanction and authority for knowledge, even in science; that only that is knowledge which is free to grow and change; and that a condition for its growth is the challenge of independent minds.¹⁷⁰

Popper sees a power in the emancipated and free individual. It is a power that has led to growth and development and most of all to openness and consequent creativity. He states:

The emancipation of the individual was indeed the great spiritual revolution which led to the breakdown of tribalism and the rise of democracy... . This individualism, united with altruism, has become the basis of our western civilization.¹⁷¹

In the next section openness will be proposed as Popper’s overall methodological approach in all areas of his concern. It is his unifying theme.

6.3. OPENNESS: POPPER’S OVERALL METHODOLOGY

In his article *A Popperian Harvest*¹⁷², Bartley outlined the main themes that emerge from Popper’s seminar method. He relates:

.You must have a problem, *not* a topic.

.Do not *try* to be original. Find a problem that excites you. Work on it and take what you want.

.You must *want* to communicate to your reader. You must be clear, never use long words or anything endlessly complicated...

.It is immoral to be pretentious, or try to impress the reader or listener with your knowledge. For you are ignorant. Although we may differ in the little things we know, in our infinite ignorance we are all equal.

.Do not be attached to your ideas. You must expose yourself, put yourself to risk. Do not be cautious in your ideas. Ideas are not scarce:

there are more where they come from... . But once the idea is stated, you must try *not* to defend it, not to believe it, but to criticize it and to learn from discovery its defects. Ideas are only conjectures. What is important is not the defence of particular conjectures but the growth of knowledge.

.So be scrupulous in admitting your mistakes: you cannot learn from them if you never admit that you make them.¹⁷³

The above exposition captures the essence and essential unity of Popper's work. His work has a wide scope ranging from physics through biology to sociology and political theory. However, all these disciplines are seen as evolutionary products, subject to critical examination. This examination includes a review of even their most fundamental principles. Popper's critical methodology is fundamentally open in the sense that no principles are beyond criticism and examination.¹⁷⁴ The method is universally applied by Popper as there are no special methods relating exclusively to philosophy, to science (both natural and social) or to logic.

In his later works, Popper directs himself to areas barely hinted at in his earlier years, that is, biology and the evolutionary theory. These theories integrate all his previous work and are thoroughly consistent with it. Popper began in *The Logic of Scientific Discovery* with Physics, as an advanced form of knowledge. Later he turned to prehuman forms of knowledge. Problem-solving, including animal problem-solving has a Darwinian basis. Knowledge is the result of the process of natural selection.¹⁷⁵

This development leads eventually to the mental states of man. Though grounded in the body, they began through consciousness to transcend themselves. A self-conscious mind emerges as a product of the brain. It is totally different from the brain, but emerges from and interacts with it. Moreover, this self-conscious mind directs the processes of the physical brain.¹⁷⁶ The higher evolutionary development or the self-conscious mind controls the lower levels, or the physical brain.¹⁷⁷

This "open" evolution, which is a product of blind variation or selective retention,¹⁷⁸

gives rise to still higher levels - the products of the human mind which Popper calls World 3.¹⁷⁹ Unexpected and sometimes unavoidable consequences flow from them. Thus a picture of an indeterministic universe emerges.¹⁸⁰ However, as noted earlier (pp.178-179) it is a universe of what Popper calls "plastic controls".¹⁸¹ Controls (on chance) are provided not only by propensities¹⁸² but by World 3 objects like theories and values which influence changes in the physical universe.¹⁸³ The universe displays causal openness in that each hierarchical level is able to interact with the other levels. Expressed differently, this means that freedom (the higher levels) interacts with nature (the lower levels) producing a universe that is evolutionary, creative, increasingly complex and infinitely emergent.

Popper's varying and divergent disciplines are all integrated and closely connected. Thus indeterminism in physics has its counterpart in history. Popper's epistemology has been seen to be rooted in both physics and biology. These provide the basic presuppositions of Popper's sociological doctrine, that is, the open society. The open society is rooted in the open universe. The open society is evolutionary, striving falteringly towards a rationality and truth, and its method is responsible individual initiative. The quest for rationality arises from the ability "to listen to critical argument and to learn from experience".¹⁸⁴

The criticism of theories and their scientific and logical counterpart, falsification, is linked to political theory. Democracy provides the most efficient means for preserving the freedom of critical rationalism.¹⁸⁵

In order to preserve this freedom and promote responsible and accountable individuality political society needs only minimal functions.¹⁸⁶ Popper says political structures should "provide no more than a framework with which the citizens may act in a more or less organized way"¹⁸⁷. Consequently, its method is one of piecemeal and open

reform. Improvement, not perfection, is the aim.¹⁸⁸ Indeed, perfection is impossible, for the social and political order is influenced by continual scientific and sociological development.¹⁸⁹ However, the open society is, not a realm of moral or intellectual relativism. We strive, as in the physical sciences, towards objective truth, towards moral improvement by constant self-examination and self-correction.

This survey shows that all Popper's varying scientific and social disciplines depend upon an overall method that may be termed "evolutionary openness", whether the area be physics, biology, sociology, logic or political theory, for "the truth is not manifest"¹⁹⁰ It lies always ahead and is reached by the arduous path of trial and error or knowledge modification that leads to increasing complexity, novelty and openness.

In the next chapter a critical comparison will be made between Popper's "evolutionary openness" and the theologian, Jürgen Moltman's "Open Systems".

FOOTNOTES

- 1 K. Popper, *Unended Quest*, p.20.
- 2 K. Popper, *The Poverty of Historicism*, p.29. See also *The Open Society and its Enemies*, Book 1, p.32.
- 3 *Ibid.* See also *The Open Society and its Enemies*, Book 1, p.32.
- 4 K. Popper, *Unended Quest*, p.22.
- 5 *Ibid.*
- 6 *Ibid.*, p.24.
- 7 *Ibid.*, p.22.
- 8 K. Popper, *The Open Society and its Enemies*, Book 1, p. 172. See also *The Logic of Scientific Discovery*, p.38.
- 9 K. Popper, "Replies to my Critics", in *The Philosophy of Karl Popper*, p.1084.
- 10 K. Popper, *Conjectures and Refutations*, pp. 46-7.
- 11 K. Popper, *The Open Society and its Enemies*, Book 2, p.225.
- 12 K. Popper, *Unended Quest*, p.87.
- 13 K. Popper, *The Growth of Scientific Knowledge*, pp.7-9.
- 14 *Ibid.*, pp.19-20.
- 15 *Ibid.*, p.27.
- 16 K. Popper, *Conjectures and Refutations*, p.226.
- 17 K. Popper, *The Logic of Scientific Discovery*, p.27.
- 18 *Ibid.*, p.86.
- 19 K. Popper, *Conjectures and Refutations*, pp.116-117.
- 20 K. Popper, *The Open Society and its Enemies*, Addendum (1961) 4th Edition Vol. 2, p.377.
- 21 A. E. Musgrave, "The Objectivism of Popper's Epistemology", in *The Philosophy of Karl Popper*, Vol 1. p.377
- 22 K. Popper, *Conjectures and Refutations*, p.46; p115.
- 23 K. Popper, *The Growth of Scientific Knowledge*, p.18.
- 24 K. Popper, *Objective Knowledge*, p.14.
- 25 K. Popper, "Truth and Approximation to the Truth", in *The Pocket Popper*, p.192.
- 26 K. Popper, *The Open Society and its Enemies*, Book 1, p.201.
- 27 K. Popper, *Objective Knowledge*, pp.61-62.
- 28 *Ibid.*, p.66.
- 29 K. Popper, *Conjectures and Refutations*, p.127. See also *Objective Knowledge*, p.340-361.
- 30 Naydler, "The Poverty of Popperism" p. 98.
- 31 K. Popper, "Replies to my Critics", in *The Philosophy of Karl Popper*, p.1089.
- 32 A. E. Musgrave. "The Objectivism of Popper's Epistemology", in *The Philosophy of Karl*

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- Popper, pp. 562-565.
- 33 K. Popper, *Objective Knowledge*, pp. 261-262.
- 34 *Ibid.*
- 35 *Ibid.*, p.261.
- 36 K. Popper, "Replies to my Critics", in *The Philosophy of Karl Popper*, p. 1061.
- 37 K. Popper, *Objective Knowledge*, p.235.
- 38 *Ibid.*
- 39 *Ibid.*, pp.237-8. See also *The Open Universe*, p.118.
- 40 K. Popper, *The Self and its Brain*, p.15.
- 41 K. Popper, *Objective Knowledge*, pp.112-116.
- 42 *Ibid.*, p.116.
- 43 K. Popper, *The Self and its Brain*, p.447.
- 44 *Ibid.*, p.452.
- 45 *Ibid.*, p.454
- 46 K. Popper, *Objective Knowledge*, pp.250-1.
- 47 K. Popper, *The Self and its Brain*, p.120.
- 48 *Ibid.*, p.495.
- 49 K. Popper, *Objective Knowledge*, p.155.
- 50 K. Popper, *The Self and its Brain*, p.539.
- 51 K. Popper, *Objective Knowledge*, pp. 240-1
- 52 *Ibid.*, p.226.
- 53 K. Popper, *Realism and the Aim of Science*, p.359.
- 54 K. Popper, *The Open Universe*, p.130.
- 55 K. Popper, *The Open Society and its Enemies*, Book 1, p.151.
- 56 *Ibid.*, p.21; p.39; p.87.
- 57 *Ibid.*, pp.112-113.
- 58 K. Popper, *The Poverty of Historicism*, p.190.
- 59 *Ibid.*, p.29.
- 60 K. Popper, *The Open Society and its Enemies*, Book 1, p.121.
- 61 *Ibid.*, p.158.
- 62 K. Popper, *The Open Society and its Enemies*, Book 2, p.21.
- 63 *Ibid.*, p.111.
- 64 K. Popper, *The Poverty of Historicism*, pp.128-9.
- 65 K. Popper., *The Open Society and its Enemies*, Book 1 p.174. See also *The Poverty of Historicism*, p. 136.
- 66 K. Popper, *Objective Knowledge*, p.63.
- 67 K. Popper, *Unended Quest*, pp.37-38.

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- 68 K. Popper, *Realism and the Aim of Science*, pp. 20-21.
- 69 K. Popper, *Unended Quest*, p.36.
- 70 K. Popper, *The Open Society and its Enemies*, Book 2, p.376.
- 71 *Ibid.*, p.225.
- 72 K. Popper, *Conjectures and Refutations*, p.16.
- 73 K. Popper, *The Open Society and its Enemies*, Book 2, p.280.
- 74 K. Popper, *The Open Society and its Enemies*, Book 1, pp.200-1.
- 75 J. Bronowski, "Humanism and the Growth of Knowledge", in *The Philosophy of Karl Popper*, p.611.
- 76 K. Popper, *Unended Quest*, pp.149-50.
- 77 K. Popper, *Conjectures and Refutations*, p.356.
- 78 K. Popper, "Replies to my Critics", in *The Philosophy of Karl Popper*, p.1084
- 79 K. Popper, *The Open Society and its Enemies*, Book 2, p.225.
- 80 *Ibid.*
- 81 *Ibid.*, p.223.
- 82 K. Popper, *The Open Society and its Enemies*, Book 2, p.225.
- 83 K. Popper, *Conjectures and Refutations*, p.129.
- 84 K. Popper, *The Growth of Scientific Knowledge*, p.18.
- 85 K. Popper, "The Poverty of Historicism", in *A Pocket Popper*, pp. 292-295; 304-318; 335-337.
- 86 K. Popper, *The Poverty of Historicism*, p.77.
- 87 K. Popper, *The Open Society and its Enemies*, Book 1, p.158.
- 88 K. Popper, *The Logic of Scientific Discovery*, p.27.
- 89 D. Hume, *Treatise on Human Nature*, Book 1, p.89. See also K. Popper, *Logic of Scientific Discovery*, pp. 29; pp. 369-70; *Conjectures and Refutations*, p.42; *Objective Knowledge*, p.96.
- 90 K. Popper, *Objective Knowledge*, p.96.
- 91 *Ibid.*, p.100.
- 92 K. Popper, *Conjectures and Refutations*, p.54.
- 93 *Ibid.*
- 94 *Ibid.*, p.53.
- 95 K. Popper, *Logic of Scientific Discovery*, p.60.
- 96 *Ibid.*
- 97 K. Popper, *Conjectures and Refutations*, p.56.
- 98 K. Popper, *Objective Knowledge*, p.96.
- 99 *Ibid.*, pp.96-97.
- 100 *Ibid.*
- 101 K. Popper, *The Open Society and its Enemies*, Book 2, p.225. See also *Conjectures and*

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- Refutations, pp.148-9.
- 102 K. Popper, *Conjectures and Refutations*, pp.148-9.
- 103 K. Popper, *Objective Knowledge*, p.261.
- 104 K. Popper, *Unended Quest*, p.167.
- 105 K. Popper, *The Poverty of Historicism*, p.106.
- 106 K. Popper, *Unended Quest*, p.167.
- 107 *Ibid.*, p.168; pp.171-2.
- 108 *Ibid.*, p.178.
- 109 K. Popper, *The Poverty of Historicism*, pp.149-150.
- 110 K. Popper, *Objective Knowledge*, p.258.
- 111 *Ibid.*, p.261.
- 112 *Ibid.*, p.258.
- 113 *Ibid.*, p.261.
- 114 *Ibid.*
- 115 K. Popper, *The Self and its Brain*, p.16.
- 116 K. Popper, "Natural Selection and the Emergence of the Mind", in *Evolutionary Epistemology, Theory of Rationality, and the Sociology of Knowledge*, p.151.
- 117 *Ibid.*, pp.151-2. See also K. Popper *Objective Knowledge* p.250-1.
- 118 K. Popper, *The Self and its Brain*, pp.472-73.
- 119 See Chapter 4, Note 135, p.125.
- 120 K. Popper, *The Self and its Brain*, p.495.
- 121 *Ibid.*
- 122 K. Popper, *Objective Knowledge*, p.116.
- 123 K. Popper, *The Self and its Brain*, p.450. See also *The Open Universe*, p.129.
- 124 K. Popper, *The Open Universe*, p.55.
- 125 *Ibid.*, p.47.
- 126 K. Popper, *Objective Knowledge*, p.219.
- 127 K. Popper, *The Self and its Brain*, p.22.
- 128 *Ibid.*, pp.22-23.
- 129 K. Popper, *Objective Knowledge*, pp.240-1.
- 130 *Ibid.*, p.230.
- 131 K. Popper, *Realism and the Aim of Science*, p.359.
- 132 K. Popper, "Indeterminism is not Enough: An Afterward", *The Open Universe: An Argument for Indeterminism*, pp.114-159.
- 133 K. Popper, *The Self and its Brain*, p.35.
- 134 K. Popper, *The Open Universe*, p.114.
- 135 *Ibid.*, p.127.

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- 136 D. H. Clark, "Karl Popper's Solution to the 'Problem of Human Freedom': A Critical Evaluation", p.121.
- 137 K. Popper, *The Open Universe*, p.126.
- 138 K. Popper, *Objective Knowledge*, p.116.
- 139 K. Popper, *The Self and its Brain*, p.15. See also pp.23-27.
- 140 K. Popper, *The Open Universe*, p.131. See also *Objective Knowledge*, pp.289-91.
- 141 *Ibid.*, p.131.
- 142 K. Popper, *The Self and its Brain*, p.7.
- 143 *Ibid.*, p.8.
- 144 K. Popper, *The Open Universe*, p.162.
- 145 K. Popper, *The Poverty of Historicism*, pp.28-29.
- 146 K. Popper, *Unended Quest*, p.19.
- 147 K. Popper, *Objective Knowledge*, pp.122-3.
- 148 K. Popper, *Unended Quest*, p.19.
- 149 *Ibid.*, p.86.
- 150 K. Popper., *Objective Knowledge*, p.122.
- 151 *Ibid.*, p.123.
- 152 K. Popper, *The Poverty of Historicism*, p.29.
- 153 *Ibid.*
- 154 *Ibid.*, p.3.
- 155 *Ibid.*, p.74.
- 156 *Ibid.*, p.136.
- 157 K. Popper, *The Open Society and its Enemies*, Book 1, p.173.
- 158 *Ibid.*
- 159 K. Popper, *Conjectures and Refutations*, p.383.
- 160 *Ibid.*, p.356.
- 161 *Ibid.*
- 162 *Ibid.*, p.7. See also *The Poverty of Historicism*, p.117.
- 163 *Ibid.*, p.356.
- 164 K. Popper, *The Poverty of Historicism*, p.157.
- 165 K. Popper, "Replies to my Critics", in *The Philosophy of Karl Popper*, p.1157.
- 166 *Ibid.*, p.1156. See also *The Open Society and its Enemies*, Book 1, pp.66-69.
- 167 K. Popper, *The Open Society and its Enemies*, Book 1, p.63.
- 168 K. Popper, *The Poverty of Historicism*, p. 7. Note: "Relativism in morals is, very largely the result of a true insight there can't be any normative source of morals ... every period, every 'spirit of the age' has its own science (so say Hegel and Spengler); science is man-made and is therefore normally an expression of World 2. There is no really autonomous World 3." K.

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- Popper "Replies to my Critics", in *The Philosophy of K. Popper*, p.1157.
- 169 K. Popper, *The Open Society and its Enemies*, Book 1, p.61.
- 170 J. Bronowski, "Humanism and the Growth of Knowledge", in *The Philosophy of Karl Popper*,
p.629.
- 171 K. Popper, *The Open Society and its Enemies*, Book 1, p.101.
- 172 Levinson (ed.), *In Pursuit of Truth*, pp.249-289.
- 173 *Ibid.*
- 174 *Ibid.* p.282.
- 175 K. Popper, *Objective Knowledge*, pp.261-2.
- 176 K. Popper, *The Self and its Brain*, pp.472-473.
- 177 *Ibid.*, p.495.
- 178 See: D. T. Campbell, "Blind Variation and Selective Retention in Creative Thought and in
other Knowledge Processes", pp. 380-400.
- 179 K. Popper, *Objective Knowledge*, p.116.
- 180 K. Popper, *Objective Knowledge*, pp. 120-1.
- 181 *Ibid.*, p.232.
- 182 K. Popper, *Realism and the Aim of Science*, p.359.
- 183 K. Popper, *Objective Knowledge*, p.230.
- 184 K. Popper, *The Open Society and its Enemies*, Book 1, p.122.
- 185 *Ibid.*, p.122
- 186 K. Popper, *The Open Society and its Enemies*, Book 2, p.125.
- 187 K. Popper, *Conjectures and Refutations*, pp.350-1.
- 188 K. Popper, *The Open Society and its Enemies*, Book 1, p.158.
- 189 K. Popper, *The Poverty of Historicism*, pp.66-70.
- 190 K. Popper, *Conjectures and Refutations*, p.7.

CHAPTER SEVEN

OPENNESS AND THE POSSIBILITY OF TRUTH

7.1. TRUTH: THEOLOGICAL AND SCIENTIFIC

Moltmann's and Popper's evolutionary openness increases the possibility of dialogue between theology and science. There are areas of parallel research where a dynamic exchange of ideas is possible. It is the contention of the writer that each scholar would be open to the discoveries and insights of the other. Their methodologies, with much in common, allow an overlap in the following areas of research: truth (future), transcendence, open systems (indeterminacy) and a sociological commitment to an Open Society. One is a theologian, the other a philosopher, primarily of science. However, both are modest in their claims.

The Christian faith concerns God as an all-encompassing reality. For this reason what is believed about reality by science, whether physical, chemical, biological or even sociological, is not irrelevant to faith. Moreover science is the common possession of humanity as a whole and therefore needs to be used in commentary on Christian teaching.

Similarly, science needs to recognize that the spiritual and religious quest is one of the major realities of human life even in a technological society. Langdon Gilkey makes the point:

A scientific community ... that ignores the relation of its truth and its life to law, to morals, and to fundamental religious symbols ... only makes

itself and its culture vulnerable to ideological capitulation. Ignorance of the religious in both its demonic and its creative forms can be even more fatal for a scientific culture than ignorance of new scientific and technological development.¹

Science and religion speak different languages; however, insight in one serves to illuminate the other. Superficially it could be said that science asks “how” questions about observables and religion asks “why” questions about personal goals and alternative purposes.² There is an obvious overlap of interest: scientists, too, will have their ultimate concerns in partial realities. Theologies express interest and concern in how the world God created actually works. However, the writer feels that there should be no epistemological and methodological problem as long as theological language is not used to answer strictly scientific questions and vice versa.

It is as open and not as closed systems that science and theology should confront each other. Today many scientists have moved away from the ideology that has come to be known as “scientism”.³ They question whether science is really value-free, uninfluenced by personal belief and subjectivity.⁴ In his 1962 study, *The Structure of Scientific Revolutions*,⁵ Thomas Kuhn studies the periods when major changes have occurred in the world-view of scientists. He calls these world-views paradigms, or the received tradition of a given scientific community. These paradigms both define and limit the questions asked and the solutions accepted. The point that Kuhn makes is that the choice between any two paradigms is not dictated by objective rules. Moreover, new paradigms explain dimensions of reality that old paradigms do not.

It is the discussion of the relationship of scientific theories to the truth that has moved the scientific community away from a simple mechanistic view of the world. Consequently scientists are more modest in their claims for truth in the physical world. In seeking the truth about nature they are aware that their selection is often made in accordance with their own presuppositions and prejudices. David Ray Griffin observes:

Recognition that science has *discovered* a wide range of truth is compatible with the conviction that a wide range of truth that is *not*

discovered exists, and that its formulations of the truth it *has* discovered are one-sided, presently only abstractions from the full truth.⁶

Thus it can be said that their goal is no longer certain knowledge but rather verisimilitude, that is, a slow, faltering, understanding of reality but one which will in its totality always elude them. Reality can only be known imperfectly, is always influenced by personal judgement and remains subject to continual public scrutiny. With Popper it can be said that only in criticizing competing theories can we steadily approach open objective truth.⁷

Theologians, too, have come to realize that their own language is much less scientific, more metaphorical and richer in religious models.⁸ Theologians are able to speak about God only by analogy. All words used in religious statements fall far short of the concepts they signify. Hans Kung⁹ has applied Kuhn's paradigm model of the evolution of scientific knowledge to theology. He proposes that theological discourse must take place within a broad set of metaphysical and theological assumptions. Kung lists five major paradigm changes in the history of theology, the most recent being the contemporary ecumenical paradigm. All paradigms are efforts by Christian theology to think through what is believed to be the truth of the Christian faith.¹⁰ There are many cultural factors in the emerging modern paradigm: secularisation, religious pluralism, racism, sexism, the Third World, ambiguity concerning science and technology and environmental problems.¹¹ Thus, theology is more open than before in its articulation of the Christian faith experience: it is increasingly seen as a time-bound effort to translate the salvific event of the past to the world of the present. Moltmann understands an eschatologically open unfolding of the truth when he states: "The world is not yet finished; but it is understood as engaged in history. It is therefore the world of possibilities, the world in which we can serve the future, promised truth..."¹²

Open truth is complex truth. The new, emerging science challenges traditional science because of the range of complexity within scientific reality. The physicist, Heinz

Pagels, explains this development:

Science has explored the microcosmos and the macrocosmos; we have a good sense of the lay of the land. The great unexplained factor is complexity. Complex systems include the body and its organs, especially the brain, the economy, population and evolutionary systems ... Scientists, in a new interdisciplinary effort, have begun to meet the challenge of complex systems and, remarkably, are understanding *how* complexity can emerge from simplicity ... Some aspects of our moral behaviour - behaviour that either reflects or constitutes our moral values - seem extremely complex, but conceivably they arise from simple elements that can be understood. While science cannot judge, it can help us understand.¹³

According to Pagels, complexity can lead to the resolution of the unresolvable conflict between the reductionist and the transcendental views of reality.¹⁴

Karl Rahner believes that Christians have to become used to the feeling of being lost in the complex cosmos. In this way they will hold the scientific view of the world to coexist in creative tension with the Christian view of their dignity and importance as human persons. He expresses the tension in these words:

...their very *recognition* and *acceptance* of the fact of being lost in the cosmos actually *raises them above it* and enables them to realize it as an expression and mediation of that ultimate experience of contingency which they, in virtue of their ancient faith, must perceive and accept before the infinite God as finite creatures In this way the feeling of cosmic dizziness can be understood as an element in the development of people's theological consciousness... . If people have to give up their feeling of being at home in the universe in exchange for the feeling of not being at home, which reflects the character of their religious experience, then this is at root a legitimate element of mankind's fate.¹⁵

From the above analysis of the nature of religious and scientific truth the common, mutually shared concept of complexity emerges: in the acceptance of the complexity of their respective subject matter dialogue is possible between science and theology. Overall, openness for Moltmann and Popper means the acceptance of complexity in truth and truth in complexity.

Truth, for Moltmann, lies ahead. It is the anticipation, the sending ahead of God's future contained proleptically in the death and resurrection of Jesus.¹⁶ This *novum* is

qualitatively different from historical experiences.¹⁷ This means the world is a system “... in which something new happens and can be realized”¹⁸, an experiment, an open creative process of indeterminate behaviour, of infinite possibilities in the realization of which more open possibilities emerge. The eschatological end which completes the historical process opens up all finite systems for the fullness of life.¹⁹

For Popper, truth is no less evasive; it “is not manifest”²⁰; it is a “regulative principle”²¹; it is “correspondence to facts”²²; objective yet fallible²³; evolutionary²⁴ and transcendent (in World 3). Its origins are within the process of the universe, yet in World 3 it transcends the world. World 3 is an autonomous man-made world that evolves in emergent creativity and in which new things emerge. In a real sense, then, the future of the truth, (that is, World 3) interacts with present reality (World 1 and World 2). Popper states:

And I assert that even though this third-world is a human product, there are many theories in themselves and arguments in themselves and problem solutions in themselves which have never been produced or understood and may never be produced or understood by men.²⁵

From different perspectives Moltmann and Popper agree that truth (both theological and scientific truth) is complex, non-reductionist, evolutionary and emergent. There is a transcendence of the lower into the higher, of the less producing the unexpected and unpredictable more; of an openness to growth in complexity. Moltmann expresses his position as follows:

With every possibility that is realized, even more *complex* structures also come into being, and these in turn *open up* new ranges of *possibility* ... The richer wealth of forms is bound up with a growing *indeterminacy* of behaviour, and this again involves increasing *future possibilities*.²⁶

Popper’s position is strikingly similar - truth is a product of emergent indeterminism. In a strong reaction against determinism (clocks) and in favour of indeterminism plus control (clouds) he states:

All physical systems, including clocks, are, in reality clouds... . This suggests that the *emergence* of hierarchical levels or layers and of *interaction* between them, depends upon a fundamental *indeterminism* of

the physical universe. Each layer is *open* to causal influences coming from lower *and* from higher levels.²⁷

Truth is not easy to acquire: it evolves with an open system, leads to more complex open systems, to a self-transcending system. Theology and science coexist within this thesis of the nature of truth. Transcendence is a common language.

7.2. TRANSCENDENCE

Moltmann's contention has been that traditional theology has emphasized duality, that is, creation and redemption, necessity and freedom, nature and grace. Accordingly, grace prepares for and perfects nature.²⁸ Moltmann, however, would prefer to say that grace, rather than perfecting nature, prepares nature for eternal glory:

... we have to talk about nature and grace, and the relationship between nature and grace, in a forward perspective, in the light of the coming glory, which will complete both nature and grace, and hence already determines the relationship between the two here and now... [Similarly] being a Christian is not yet in itself the completion, but represents only a messianic *path* towards a possible future consummation of the condition of being human.²⁹

In a similar vein, as the Resurrection of Christ is the beginning of a new creation of the world, so nature and grace are to be seen in a forward perspective. They should be seen in the light of "the coming glory which will complete *both nature and grace*".³⁰ Moltmann will not define these dualities against one another, rather "they will be determined in all their complex intercommunication in relation to a third, common to them both".³¹

This common process identifies God with his creation. However, Moltmann contends that,

Without the difference between Creator and creature, creation cannot be conceived at all; but this difference is embraced and comprehended by a greater truth which is what the creation narrative really comes down to, because it is the truth from which it springs: the truth that God is all in all. This does not imply a pantheistic dissolution of creation in God; it does mean that the final form which creation is to find is God.³²

The kingdom of glory has its existence within history but is, nevertheless, a transcendent reality, a *novum* which emerges *within* the world's processes *out* of the future of God. Although he blurs the distinction between the immanent Trinity and the economic Trinity, he rejects a simple identification of the world processes with God, urging that "In order to understand the history of mankind as a history *in* God, the distinction between the world process and the inner-trinitarian process must be maintained and emphasized."³³ The immanent Trinity belongs, then, to the eschatological fulfilment of God in glorified creation.³⁴ Within the economic Trinity, God and creation co-exist in the history of creative suffering. Unfulfilled or unglorified creation is a suffering creation.³⁵ Transcendence is linked to the panentheistic suffering of God in creation. Moltmann's position is clear:

...the deliverance or redemption of the world is bound up with the self-deliverance of God from his sufferings... . Not only does God suffer with and for the world; liberated men and women suffer with God and for him. The theology of God's passion leads to the idea of God's self-subjection to suffering. It therefore also has to arrive at the idea of God's eschatological self-deliverance. Between these two movements lies in the history of the profound fellowship between God and man in suffering...³⁶

A God involved *in* the world processes, rather than God *over* creation, allows theology to take matter seriously. Spirit-matter dualism was used in the past to articulate spiritual transcendence. Moltmann, however, sees transcendence in the future spiritual destiny of matter and all creation.

Popper understands transcendence in the objective, autonomous nature of problems or theories which are independent of human thought. World 3, the world of the objective contents of human thoughts and values, is not just part of the natural history of man, but an autonomous realm subject to an autonomous development. Although World 3 is a totally human product, Popper asserts:

... the idea of autonomy is central to my theory of the third-world... . There is also a most important feed-back effect from our creations upon ourselves; from the third-world upon the second-world... . The autonomy of the third-world, and the feed-back of the third-world upon the second and even the first are among the most important functions of

the growth of knowledge.³⁷

Popper gives the third world an "ontological status"³⁸ in that, although originating in human activities, it transcends these activities since it contains both problems which no one can solve and problems which are insoluble.

According to Popper, World 3 objects originate from the cognitive activities of the human mind. As was noted earlier³⁹, animal language could only serve the expressive and communicative function of manifesting the condition of the organism and thereby signalling to other organisms to respond. Only human language has both a fully developed descriptive function and an argumentative one. These higher linguistic functions of human beings are what Popper considers responsible for the creation of World 3 objects.

Transcendence, then, originates within the human mind and self. Popper sees the self-conscious mind as being an evolutionary product of the brain but transcending the brain so that it actually directs the brain processes. He explains the interaction in these words:

...The active, psycho-physical self is the active programmer to the brain..., it is the executant whose instrument is the brain. The mind is, as Plato said, the pilot... the self... is incredibly richer.⁴⁰

Popper opts for mental-physical interaction, dismissing problems connected with the ghost in the machine as being based on outdated views of causation and physical determinism.⁴¹ Moreover, he rejects reductionism and accepts upward causation along with downward causation. In this he proposes that higher evolutionary developments control the lower levels from which they have emerged.⁴² Thus the evolutionary process is a self-transcending one in which phenomena emerge which are *new* and different from what has previously existed in the world. Popper explains:

It (the self-conscious mind) is something utterly different from anything which, to our knowledge, has previously existed in the world... . From an evolutionary point of view, I regard the self-conscious mind as an emergent product of the brain...⁴³

Popper sees the self as anchored in World 3⁴⁴:

I have described World 3 as consisting of the products of the human mind. But human minds react, in their turn, to these products: there is feedback... . The influence is both conscious and unconscious. It bears upon expectations, upon preferences, upon programmes. Insofar as we are products of other minds, and of our own minds, we ourselves may be said to belong to World 3.⁴⁵

Popper is far from proposing an immortal soul or psychic substance that can exist independently of the body. However, the self and World 3 are emergent products of an evolutionary and self-transcending universe. Thus the acknowledgment of complex systems leading to transcendence allows the writer to propose that science and theology are not two separate realms of discourse. Moltmann and Popper are far from achieving a single integrated intellectual exercise, but their respective understandings of transcendence have given them at least some common insights. In *The Self and its Brain*, which Popper wrote in collaboration with Sir John Eccles, the world renowned Nobel Prize winning scientist, Eccles comments:

...man is much more than is given by this purely materialistic explanation. I think there is a mystery in man, and I am sure that at least it is wonderful for me to get the feeling that he isn't just a hastily made-over ape, and that there is something much more wonderful in his nature and his destiny.⁴⁶

Moltmann and Popper both speak of open systems in relation to evolutionary processes in nature. In these systems, increasing complexity at higher levels leads to development which could not have been foreseen at lower levels. In the next section of this chapter the treatment of this subject will be discussed.

7.3. OPEN SYSTEMS

Moltmann moves towards a synthesis of scientific and theological thinking in his idea of creation as an open system. He wants to affirm that God can create new things. Thus he states: "The future is not completely inherent in the present. The future also brings randomness, because it can bring something new".⁴⁷ What are the distinguishing marks of the open system? According to Moltmann there are four: the future condition is not totally determined by past behaviour; behaviour is indeterminate in that there are

various possibilities of change; the final condition is different from the initial state; and there is a predisposition to communicate and interact with other systems.⁴⁸ Moltmann understands that the evolution of complex open systems is partially undetermined. Increasing complexity realizes a growing multiplicity of possibilities. This means that

The process of the evolution of systems of matter and life is not a unilinear chain of causality. It more closely resembles a growing and spreading web of elementary particles and structures. These structures fan out, extending not merely in existing environments, but also in the range of possibilities afforded by the future... . With every possibility that is realized, even more complex situations also come into being, and these in turn open up new ranges of possibility.⁴⁹

Moltmann speaks of such an open universe as being both participatory and anticipatory. By the former he means communication of a richly diverse nature between all the part-systems and, by the latter, an accelerated growth in complexity leading towards ultimate self-transcendence.⁵⁰ The open universe evolves towards transcendence out of which it subsists.

The evolution of these complex systems increases indeterminate behaviour. Moltmann understands what he calls the "... partial indeterminacy of nature ...".⁵¹ He means by this that the future does not completely inhere in the present for the future includes elements of randomness and can bring something new. Furthermore, he understands that, in the evolution of complex systems, the model of causality is inappropriate.⁵²

Moltmann understands that the Holy Spirit is the principle of the evolution of the universe.⁵³ In this sense the Spirit is identical with the cosmic spirit of nature. He writes: "... we give the name of Spirit to the form of organization and modes of communication in open systems".⁵⁴ In the kingdom of glory there is the full indwelling of God in His creation. For this reason it is "...the openness of all finite life systems for infinity" and "the unlimited fullness of divine potentiality ... in the new creation."⁵⁵

Popper's scientific and philosophical understanding of open systems has much in

common with Moltmann's. Like Moltmann's, it is coterminous with a theory of evolution; unlike Moltmann's, though, it is linked to his theory of knowledge. The primary epistemological and evolutionary activity is always problem-solving. With evolution it is linked to survival. As Popper notes:

All *organisms* are constantly, day by day, *engaged in problem-solving*; and so are all those evolutionary *sequences of organisms* - the *phyla* which begin with the most primitive forms and of which the now living organisms are the latest members.⁵⁶

Popper offers no explanation of the genesis of life. His interest is only in the development of life. (According to Popper nothing can be said about the origin of theories. See p.110-113). Animal evolution relates to survival with an accompanying modification of organs or even the emergence of new ones; human evolution involves the emergence of language⁵⁷ and subsequent developments outside the organism. Popper proposes two kinds of behavioural programmes which he calls the *closed behavioural programme* and the *open behavioural programme*. He defines them as follows:

A closed behavioural programme is one that lays down the behaviour of the animal in great detail. An open behavioural programme is one that does not prescribe all the steps in the behaviour but leaves open certain alternatives, certain choices... The open programme evolves, we may assume, by natural selection, due to the selective pressure of complex and irregularly changing environmental situations.⁵⁸

The argumentative function of language with its concept of truth and falsity made the development of reason possible and stimulated the human organism to a full consciousness of self.⁵⁹ Critical thought is the byproduct of the self-conscious mind. Mental states emerge from the human body, but, with consciousness, transcend it. Popper speaks of "... those highly organized states which seem to be characteristic of the human mind"⁶⁰ as World 2, the human self. The self-conscious mind has so transcended the brain that it has emerged as something completely different from the brain, yet interacting with and orchestrating it.⁶¹ (p.112)

Popper's open evolutionary process cannot be understood reductively⁶²; rather, upward

and downward causation are the kingpins of openness: evolution both from lower to higher forms and from higher evolutionary developments down to the lower levels from which they have evolved.⁶³

Emergence reaches a new level of complexity when the self-conscious mind, through its products, transcends itself. These products of the human mind are created by humanity, but they have consequences which are unexpected and unavoidable. They are thus autonomous and therefore inhabit a roughly Platonic World 3. Their open autonomy is proposed on three grounds: discovery of unknown and important truths about systems created; autonomous problems that may never be grasped or known,⁶⁴ and “exosomatic systems of control”⁶⁵ that are beyond our control. They control us. In summary, Popper is proposing that the development of these World 3 entities is independent of the hopes, intentions and predictions of their creators.

None of Popper’s three worlds is reducible to the others, but there is an open causal relationship between them.⁶⁶ The implications are described by Popper as follows:

... it shows that nature, or the universe to which we belong and which contains as parts, the Worlds 1, 2, and 3, is itself open; it contains World 3 and World 3 can be shown to be intrinsically open.⁶⁷

Such a universe is creative and expanding with more highly developed organs and systems displaying increasingly indeterminate and open behaviour than more primitive organisms. Popper sees the asymmetry between the past and the future as providing a strong argument for indeterminism. The past is closed; the future open. This means, for Popper, that

In physical terms, this asymmetry is established by the fact that from any place in the “past”, a physical causal chain ... can reach any place in the “future”; but from no place in the future can such an effect be exercised on any place in the past.⁶⁸

Is the future sheer chance? Is indeterminism free, haphazard and random? Popper’s indeterminism combines freedom and control (plastic controls) for, as he states:

... mere physical indeterminism is not enough ... we also must try to establish how men, and perhaps animals, can be 'influenced' or 'controlled' by such things as aims or purposes, or rules, or agreements.⁶⁹

"Plastic controls"⁷⁰, by which Popper means World 3 objects like theories and values, can influence World 1 changes in the universe.⁷¹ Moreover, even in the realm of physics, "propensities"⁷² (relational forces between phenomena) influence the undetermined. For all these reasons Popper can state:

Indeterminism is not enough: to understand human freedom we need more, we need the openness of World 1 towards World 2, of World 2 towards World 3 and the autonomous and intrinsic openness of World 3, the world of the product of the human mind and, especially, of human knowledge.⁷³

This quotation demonstrates how nature and freedom interact. In World 2 and World 3, matter has transcended itself, for "... one sort of being, the physical, has given 'birth' to another sort, the mental."⁷⁴ The mental (or the mind) evolves from nature (or the physical); transcends nature, but nevertheless interacts with nature and controls its operations. In this sense human freedom (the mental) is "purposive activity"⁷⁵, not chance; teleological not "random".⁷⁶

Popper sketches a universe that is emergent and novel, creative, complex, transcendent and open.⁷⁷ It is a universe whose destiny is beyond and ahead.

In the next section the open societies of Moltmann and Popper are seen as attempts to supersede final political solutions in the spirit of open systems. Openness stands intrinsically opposed to any closed worldly system.

7.4. OPEN SOCIETY

Moltmann and Popper both assess the political domain from a teleological perspective. No current or future society can ever be beyond critical scrutiny, for imperfect and fallible men can seek only provisional solutions.

Moltmann is more positive and activist than Popper. He believes that political theology is intrinsically required for the liberation of the individual. The personal liberation from sin must have a social dimension in order to re-establish the harmony of man with himself, with humanity and with the rest of creation. The reason for this is that man is not a one-dimensional being. His sufferings involve many levels of life; consequently, liberation is a struggle against five "vicious circles of death".⁷⁸ These are different kinds of slavery, such as cultural, economic, social and political. However, as Christian liberty flows from the justification of the sinner into the new life of grace, social change also demands in addition a constant need for inner individual conversion.

However, political theology must resist the temptation to espouse a new sacral order. It has to be critical of its own presuppositions in order to be a truly secularized theology. This means that it has to become a force in society's liberation from political idols.⁷⁹ Indeed, in Christianity's identification with the Crucified One who reveals the truth about an unredeemed man⁸⁰ the Christian faith is a power of liberation from any merely secular political hope. Christian hope in the promise is so radical that it stands in contrast not only to existing reality but also to any this-worldly reality. For Moltmann the kingdom is only anticipated in creative acts that contradict and open up existing reality to the future promise.⁸¹ The Resurrection of Jesus is the messianic anticipation of the end-time. As *the* eschatological event, it transcends every merely partial political solution. Thus the growth of the kingdom may not be confused or identified with any specific stage of history or political ideology. Moltmann is opposed to final political solutions. Therefore political theology must not link itself directly to politics as happens when it sees itself in positive and dogmatic terms. Only a future oriented, critical political theology based on eschatology can provide a stimulus towards the creative conversion of the world from the latency to the tendency of its possibilities.⁸² This is always an ongoing, unfinished process threatened by sin. Therefore until the *parousia*, liberty will always be incomplete, for the creative acts that are the negation of the

negative and open up closed systems to the future of a promise are not the kingdom, but merely anticipations of the kingdom. Nevertheless, they open up society to the liberating promise of Christ.⁸³

Popper's sociological ideas are closely integrated with his evolutionary epistemology. All knowledge and, indeed, even the roots of knowledge in Darwinian natural selection, is a process of problem-solving.⁸⁴ Hence, living itself is a process of problem-solving. Popper therefore calls for the creation of societies which are conducive to problem-solving. Problem-solving calls for a bold propounding of trial solutions which can then be subjected to criticism and error-elimination.⁸⁵ This necessitates a form of society which permits, firstly, the unrestricted assertion of different proposals; secondly, criticism, and lastly a genuine possibility of change in the light of criticism.⁸⁶ Popper believes that a society so organized will be more effective in solving its problems than a centrally organized society planned and ordered as a whole. Rationality, logic and science all point towards a society which is open and pluralistic. In Popper's words, rational discussion has various advantages: "... the the habit of listening to another point of view; the growth of a sense of justice; and the readiness to compromise."⁸⁷ In an open society, everyone is free to investigate problem situations and to propose solutions; to criticize the proposed solutions of others, including especially the government. Official policies are changed and organized in the light of such criticism.⁸⁸

An open society requires an individual response. Responsible individuals are needed in a community where the growth of truth requires imagination, trial-and-error, progressive discovery of prejudices and critical discussion.⁸⁹ Stress on the individual is bound to Popper's "methodological nominalism",⁹⁰ a counter to what he calls "essentialism".⁹¹ Essentialism (a form of classical belief in universals) aims to capture the essence of reality in definitions. In this way it leads naturally to Utopianism and consequent ideological conflict. Rather the approach should be to describe phenomena

and ask questions like "How shall we behave in these circumstances?" Such an answer could be fruitfully discussed, criticized and, then, should it withstand criticism, tried out. There are no ideas, theories or institutions that are not of human making.

Popper is opposed to any deterministic politics of perfection starting from a blueprint.⁹² There are no rhythms or patterns to be discovered in the evolution of historical processes.⁹³ Changes can only be made in existing circumstances for social and political developments are strongly influenced by scientific developments. This means that the growth of knowledge is a major influence on the course of human history. For this reason Popper is adamant that all claims to knowledge can only be provisional, for we "... cannot predict by rational or scientific methods the future growth of our scientific knowledge"⁹⁴ and hence cannot predict the course of history. Change is never going to stop. Therefore the very notion of a Utopian blueprint is nonsensical. For this reason when critical rationalism, a philosophical concept, is applied to politics, the result is "piecemeal social engineering"⁹⁵. Present social and political problems are addressed by the method of trial-and-error. Improvements are achieved, but perfection is not the goal.

The function of the state is a negative one. It minimizes evils without trying to realize some positive good. Its function is to protect its citizens against various kinds of exploitation, to maximize the freedom of all and to leave the promotion of happiness to private initiative.⁹⁶

The Open Society of Moltmann and Popper is the sociological counterpart of their epistemology, anthropology and cosmology. Their society is a society of imperfection, creatively overcoming limitation in an openness to the future. They are not in complete accord. Moltmann is more collectivist and interventionist; Popper more individualistic and less interventionist.

In the next chapter, Moltmann's and Popper's contributions to a possible dialogue between theology and science will be assessed. In complexity, transcendence and openness they provide a model for a commonality of approach.

FOOTNOTES

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- 1 L. Gilkey, "The Creationist Issue: A Theologian's View", p.68
 - 2 For a suitable understanding of the relationship see L. Gilkey, *Creationism on Trial*, pp.161-208.
 - 3 L. Gilkey has summarised two major suppositions of this ideology: firstly, that science represents the *sole* rational entrance into reality, and secondly, that reality is exhaustibly defined by a scientific knowledge of nature. This means that what cannot be known by science is simply not there. See L. Gilkey, "Nature, Reality and Soul: A Meditation in Science and Religion", p.285.
 - 4 See two overviews by Mary Hesse. "Cosmology as Myth" in *Cosmology and Theology*, pp. 49-54; and "Retrospect" in *The Sciences and Theology in the Twentieth Century*, pp.281-291.
 - 5 T. S. Kuhn, *The Structure of Scientific Revolutions*. Kuhn's argument is discussed at length in *Paradigms and Revolutions*, *passim*.
 - 6 D. R. Griffin, *The Reenchantment of Science*, pp.9-10.
 - 7 K. Popper, *Realism and the Aim of Science*, p.19.
 - 8 See Arthur Peacocke, *Intimation of Reality*.
 - 9 H. Kung, "Paradigm Changes in Theology and Science", pp.123-169.
 - 10 *Ibid.*
 - 11 See the papers of the many contributors to the symposium on *Paradigm Changes in Theology*.
 - 12 J. Moltmann, *Theology of Hope*, p.338.
 - 13 Heinz R. Pagels, *Dreams of Reason*, p.12, 329.
 - 14 The reductionist view is that life and even human culture is nothing but complex chemical reactions. The transcendent view understands that human thinking so transcends the material world that its products form an invisible universe of meaning. See H. Pagels, *Dreams of Reason*, pp.12-13.
 - 15 K. Rahner, "Science and Theology", p.50.
 - 16 J. Moltmann, *The Future of Creation*, p.30.
 - 17 *Ibid.*, p.16.
 - 18 J. Moltmann, *The Experiment Hope*, p.26.
 - 19 J. Moltmann, *God in Creation*, p.214.
 - 20 K. Popper. *Conjectures and Refutations*, p.7.
 - 21 *Ibid.*, p.226.
 - 22 K. Popper, *Objective Knowledge*, p.325.
 - 23 K. Popper, *Open Society and its Enemies*, Book II, 4th Ed. Addendum 1961, p.373.
 - 24 K. Popper, *Objective Knowledge*, pp.261-262.
 - 25 *Ibid.*, p.116.

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- 26 J. Moltmann, *God in Creation*, p.202. My emphasis.
- 27 K. Popper, *The Self and its Brain*, p.35. My emphasis.
- 28 J. Moltmann, *God in Creation*, p.7.
- 29 *Ibid.*, p.8.
- 30 *Ibid.*
- 31 *Ibid.*
- 32 *Ibid.*, p.89.
- 33 J. Moltmann, *The Trinity and the Kingdom of God*, p.107.
- 34 *Ibid.*, p.151.
- 35 *Ibid.*, p.50.
- 36 *Ibid.*, p.60.
- 37 K. Popper, *Objective Knowledge*, pp.116, 118, 119.
- 38 *Ibid.*, p.161.
- 39 K. Popper, *Conjectures and Refutations*, pp.134-135, 295; *Objective Knowledge*, pp.119-122, 235-238; *The Self and its Brain*, pp.57-60.
- 40 K. Popper, *The Self and its Brain*, p.120.
- 41 K. Popper, *Conjectures and Refutations*, p.298. See also Chapter 4 p.
- 42 K. Popper, *Objective Knowledge*, p.252.
- 43 K. Popper, *The Self and its Brain*, pp.553-554.
- 44 *Ibid.*, p.144.
- 45 *Ibid.*, p.144-145.
- 46 *Ibid.*, p.559.
- 47 J. Moltmann, *God in Creation*, p.201.
- 48 *Ibid.*, p.203.
- 49 *Ibid.*, p.202.
- 50 *Ibid.*
- 51 *Ibid.*, p.201.
- 52 *Ibid.*, p.202. My emphasis.
- 53 *Ibid.*, p.100.
- 54 *Ibid.*, p.17.
- 55 *Ibid.*, p.126ff.
- 56 K. Popper, *Objective Knowledge*, p.242.
- 57 *Ibid.*, p.235.
- 58 K. Popper, "Natural Selection and the Emergence of the Mind", *Evolutionary Epistemology, Theory of Rationality, and the Sociology of Knowledge*, p.151.
- 59 K. Popper, *The Self and its Brain*, p.454.
- 60 K. Popper, *Unended Quest*. p.190.

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- 61 K. Popper, *The Self and its Brain*, pp.472-473.
- 62 See Chapter 4 note 135, p.
- 63 K. Popper, *The Self and its Brain*, p.495.
- 64 K. Popper, *Objective Knowledge*, p.161.
- 65 *Ibid.*, p.254.
- 66 K. Popper, *The Self and its Brain*, p.450.
- 67 K. Popper, *The Open Universe*, p.129.
- 68 *Ibid.*, p.57.
- 69 K. Popper, *Objective Knowledge*, p.230.
- 70 *Ibid.*, pp. 240-241.
- 71 *Ibid.*, p.230.
- 72 K. Popper, *Realism and the Aim of Science*, p.359.
- 73 K. Popper, *The Open Universe*, p.130.
- 74 D. H. Clark, "Karl Popper's Solution to the 'Problem of Human Freedom': A Critical Evaluation", p.127.
- 75 *Ibid.*, p.121.
- 76 *Ibid.*
- 77 K. Popper, *The Self and its Brain*, p.31.
- 78 J. Moltmann, *The Crucified God*, p.329.
- 79 J. Moltman, *The Experiment Hope*, p.103.
- 80 J. Moltmann, *Hope and Planning*, p.80.
- 81 J. Moltmann, *Religion, Revolution and the Future*, p.106.
- 82 J. Moltmann, *Theology of Hope*, pp.259-261, 284.
- 83 *Ibid.*, p.288.
- 84 K. Popper, *Objective Knowledge*, pp.261-262; *Conjectures and Refutations*, p.352.
- 85 K. Popper, *The Poverty of Historicism*, p.157; *The Open Society and its Enemies* Book II, p.376.
- 86 K. Popper, *Conjectures and Refutations*, p.352.
- 87 *Ibid.*
- 88 *Ibid.*
- 89 *Ibid.*
- 90 K. Popper, *The Poverty of Historicism*, p.28ff.
- 91 *Ibid.*, pp. 28-29.
- 92 K. Popper, *The Open Society and its Enemies* Book 1, p.157.
- 93 K. Popper, *The Poverty of Historicism*, p.3.
- 94 K. Popper, *The Poverty of Historicism*, p.vi.
- 95 K. Popper *The Open Society and its Enemies* Book 1, p.158.

CHAPTER EIGHT

CONCLUSION

One of the greatest adjustments that theology has had to make in our present century is the acceptance of the idea that we live in a world where change is the norm. God did not make a static, unchanging universe; rather, it can be said that he *is* making an evolving, increasingly complex, transcendent and open universe.

Moltmann and Popper both accept that the matter or stuff of the universe organizes itself into ever-increasingly complicated structures. With this increase in complexity there has been a corresponding increase in the psychic quality of life until, with the advent of man, we see some degree of conscious control of the material universe. Indeed, the entire universe is in a continuous process of complex development with man in the middle of it all.

In Moltmann's and Popper's thought there is a continuity in cosmic, biological and human evolution. The whole of material reality out of which life - and eventually man - has appeared, presents a vast process in the course of which the more complex has arisen from the less complex. It is an upward and open trend in which the higher invariably emerges from the lower.¹

In a strong stand against classical reductionism, both agree that when a higher degree of integration is reached the whole is greater than the sum of its parts. Thus the greater the complexity of the brain and nervous system, the higher the form of consciousness.² Indeed in man (the spearhead of evolution) evolution has led to two qualities intrinsic to Moltmann's and Popper's thought, that is, self-consciousness and freedom (or

openness). For both, evolution prior to man's arrival was a growth through increasing complexity and openness *towards* freedom. Since man's arrival it is the growth of freedom (and corresponding indeterminacy). Thus man is not a finished creation; he is incomplete, his nature open-ended with possibilities for the future.

In chapter seven mention was made of Thomas Kuhn's influential study, *The Structure of Scientific Revolutions*. Kuhn's influence has led some scientists to reconsider how accurately we can know reality. Previously Popper had proposed that our observations are theory-laden.³ The discussion of the relationship of scientific theories to truth and reality has led many scientists today to be more modest in their claims about the physical world.⁴ Indeed the physicist, Heinz Pagels, looks towards a resolution of the conflict between the reductionist and the transcendental view of reality. He states:

The mind, it seems is transcendent to nature. Yet according to the natural sciences that transcendent realm must be materially supported and is said to be subject to natural laws. Resolving this conflict is, and will remain, a primary intellectual challenge to our civilization for the next several centuries.⁵

The future openness of science must be matched by the openness of theology. This means that they must both become more modest regarding the certainty of what they know, as well as more open to outside influences. Theology, thus, cannot understand the fullness of human history and the accompanying social and cultural changes without knowledge and insight from physical nature and the cosmic processes which are already more than 15 billion years old. The evolutionary theory outlined by Moltmann and Popper recognizes, as mentioned earlier, a self-transcendence of the lower into the higher, of the complex arising out of the simple. This makes it unnecessary to posit body-soul dualism to safeguard the spiritual principle in man. Theologically, then, potential spirituality is present even in the dynamics of matter.

A major challenge to faith, however, will be to incorporate chance and accident into a theory of evolution. In his work *The Blind Watchmaker*, Richard Dawkins, a

contemporary neo-Darwinian, dismisses conscious design within a complex universe,

Natural selection, the blind, unconscious, automatic process which Darwin described, and which we now know is the explanation for the existence and apparent purposeful form of all life, has no purpose in mind. It does not plan for the future. It has no vision, no foresight, no sight at all. If it can be said to play the role of watchmaker in nature, it is the *blind* watchmaker".⁶

It is our fear of purposelessness that makes us uneasy about giving chance and accident a role in creation. There is no blind watchmaker in theology. For the theologian accident must play a positive role in an evolutionary theology of creation. Perhaps with echoes of Moltmann's *Theology of Play* in our minds, we could use the analogy of a game. A game has rules and constraints, but it also contains an element of chance. Perhaps in keeping with the openness of creation, God's very creative act is a continuous thing like the playing of a game. This means that all the various moves cannot be calculated and premeditated from the beginning. The universe, for Moltmann and Popper, is not a closed mechanical system running in predestined tracks. Rather, it is an open-ended universe governed by both law and chance and follows a route leading towards complexity, openness and self-transcendence.

The German theologian, biophysicist and Nobel prize-winner, Manfred Eigen, captures the aforesaid sentiments in these words: "Certainly God *does* play dice, but he also follows the rules of the game."⁷ Expressed differently, for the theologian it could be said that God is the Field in which the game is played, intimately close to every detail of the process, a Lord of scientific law and a Lord of chance.

The theologian has always been more concerned about the fact *that* God creates the universe. The *what* and the *how* of creation have previously been of little concern. In dialogue with science, it becomes possible for theology to learn more of God's creative power and the implication of these results for human beings and their relationship to God. Efforts must certainly be made to re-formulate certain traditional Christian doctrines in the context of widely accepted scientific findings, especially those regarding

the evolution of matter which reaches its acme in the human person.

The degree of convergence in Moltmann's and Popper's treatment of the evolutionary process, that is, complexity, openness, and transcendence, provides a modest basis for a collaborative sharing of the fallible insights of two differing areas of reality. Science and theology are no longer two totally separate areas of discourse; for, in Alfred North Whitehead's words,

"When we consider what religion is for mankind, and what science is, it is no exaggeration to say that the future course of history depends upon the decision of this generation as to the relation between them"⁸

FOOTNOTES

- 1 The “lower” could be defined as that in which the material structure is less complex and hence less vital and conscious; the “higher” is more complex in its material structure and also more vital and more conscious.
- 2 “Consciousness” and “complexity” are two facets of the same phenomenon: there is a proportional relationship between material complexity and consciousness.
- 3 K. Popper, *Objective Knowledge*, p.261; *Conjectures and Refutations*, p.71.
- 4 See David R. Griffin, *The Reenchantment of Science*, p.970.
- 5 H. Pagels, *Dreams of Reason*, pp.12-13.
- 6 Dawkins, R, *The Blind Watchmaker*, p.5.
- 7 H. Kung in *Does God Exist?* (p.645.) quotes Manfred Eigen in *Das Spiel* (‘The Game’).
- 8 Whitehead, A.N., *Science and the Modern World*, p.181.

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