Beyond Objectivism

An exploration in the epistemology and philosophy of science of Michael Polanyi and its relevance to truth claims in religion and ethics

Master's Thesis

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Contents:

Dedication

This thesis is dedicated to Dirk Buchner, who encouraged me to start this project, Mike Goheen, who suggested that I looked into Newbigin and Polanyi, Jannie Smith with whom I started this journey, and Patrick Giddy, who finished it with me. It is also dedicated to my children and all their and my friends with whom I bounced off ideas and insights. And above all, it is dedicated to my wife, who practices most of what I only preach.

Chapter 1

Introduction

The 20th century has witnessed the view of truth change from the stark objectivism of the analytic philosophers to the relativism of the social constructivists. Far apart as these epistemologies may seem, they agree on one point, however; they leave little space for religious and moral truth claims. Such claims are relegated to the sphere of personal preferences, where they have no public consequences. This is an unsatisfactory state of affairs, as not only does it not do justice to the religious commitments of many, but also affects the moral fabric of society.

The central question that this thesis will attempt to answer is as follows:

Given the generally sound arguments against the objectivist model of truth, which renders this model neither plausible, nor desirable, is there a way in which we still can testify to religious truth in the public sphere with universal intent?

Someone who does answer this question in the affirmative is the missionary, ecumenicalist and apologist Lesslie Newbigin. Newbigin builds his apology on the epistemological basis laid by the philosopher Michael Polanyi. I intend to investigate whether Polanyi's epistemology and its use by theologians such as Newbigin and Puddefoot provides a satisfactory answer to our research question.

I hypothesize that Polanyi's work can serve as a basis for talking about truth with universal intent within the public sphere (particularly in view of the current skepticism about the Saphir-Worff hypothesis[1], which he assumed to be valid). Universal intent is a term used by Polanyi in which he combines the notion that if I believe something to be true, I believe it to be true for all, with the acknowledgement that I can err in my truth claims.

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[1] The Sapir-Wolff hypothesis that what we (can) think is determined by our language (conceptual system), or as defined by Sapir: we see and hear and otherwise experience very largely as we do because the language habits of our community predispose certain choices of interpretation (quoted in Sternberg 2002, 324)

I, secondly, hypothesize that Newbigin's application of Polanyi's epistemology, provides us with a useful paradigm to approach truth claims in religious Scriptures, which in particular surpasses the inerrancy model currently authoritative in protestant Christianity.

Why Newbigin and Polanyi? After all, Polanyi is not widely known as a philosopher of science, even by those who have made this their field of study. Yet there remains a body of Polanyi enthusiasts, even in the field of science. Furthermore, as I will discuss, Imri Lakatos was, to a significant extent, influenced by Polanyi's thought. Polanyi's importance, however, does not so much lie in the philosophy of science, as in theology. Polanyi has had an ongoing attraction for theologians who struggle with the place of religion in modern society, and in particular with the relation between science and religion. Newbigin is only one in a list of theologians that includes Puddefoot, Torrance, Wentzel van Huyssteen, Matthew Lamb, Dulles and Milavec.

Polanyi, however, lived and worked fifty years ago. He argued from Gestalt-psychology, a body of psychological theory that many now would consider as outdated – although there seems to be a come-back within cognitive science. His thoughts were developed in opposition to Russell and Popper, the latter being his co-professor in Manchester. But where does he fit in within contemporary epistemology? Was he a mere pre-postmodernist, as some have argued, or did he provide an alternative to social constructivism that is still relevant in the contemporary discussion?

The truth debate is as old as the history of Western thought. In contemporary Western culture there are three basic views on truth:

o   What I will refer to as **the absolutist view** refers back to the ancient ideal of Parmenides: only that can be called knowledge which is certain and unchanging. Of everything else we might be wrong, and thus have mere opinion. Since the work of Bacon and Locke it is held that although we may not know anything with such a degree of certainty we have a duty to strive for the greatest amount of evidence to support our truth claims. Positivists claim that truth is objective, ie, independent of the knower. The current vogue of Evidence-based Practice, as currently advocated in medicine and psychology, is merely the latest incarnation of Parmenides' ideal.

o   In particular **the existentialists** objected to this ideal of objective truth, and claimed that truths – or at least those that really mattered – ought to be subjective, authentic and affirmed by the individual. True is what the individual in an act of sincere honesty to

herself chooses to be true. If this meant that what was true for one individual was untrue for another (relativism) that has to be accepted.

o The third view, **social constructivism**, maintains that there is no such thing as objective truth, but also not of individual truths. Truths are negotiated within a language community, they are social constructs.

Polanyi integrated elements of all three views in his concept of knowledge. Like Gilbert Ryle, he starts with the notion of knowledge as a skill, of the same order as riding a bike or playing the piano. But unlike the former, his analysis of skills is informed not by behaviourism but by Gestalt theory. This places the concept of 'indwelling' at the centre of his analysis: we use our bodily tools (eyes, ears, hands) by living in our body, and when we use tools such as a hammer, a bike or language these become extensions of our body: we dwell in these tools. Tools (in particular scientific tools) and languages incorporate truth claims, and when we use such tools or speak a language we a-critically commit ourselves to the truth claims of the conceptual systems they embody. Even when we question certain truth claims (such as in a scientific experiment) we tacitly hold many other truth claims to be true.

That, Polanyi maintains, is the subjective pole of truth claims. However, there is also an objective pole. Truth claims are claims which refer to reality (states of affairs). Polanyi, however rejects the objectivist project, including what he sees as Popper's last ditch attempt to save it, because he rejects *the naïve correspondence theory of truth* – basically with an appeal to Locke and Hume (although he does not mention them): the only thing we have access to is ideas, not states of affairs. I will argue that he answers the truth-question by radicalizing Popper's proposal of falsification: we affirm truth claims by committing ourselves to them. Confirmation of a truth claim requires an act of personal commitment, of believing them and acting upon them.

Polanyi has written extensively on how his theory of personal knowledge works out in his view of scientific activity, in ethics and religious truth claims. Polanyi's own view of religion, however, differs from the use that Newbigin makes of Polanyi's epistemology. I will show, however, that Newbigin stays closer to Polanyi's general theory of knowledge than the latter himself does, and that he makes a more successful argument for the truth claims of orthodox Christianity than Polanyi. I will argue that Newbigin's appeal to Polanyi's epistemology provides better answers to questions relating to the authority of Scripture within the Christian community than contemporary evangelical thinking does.

Sub-Questions to be addressed:

1. In view of his rejection of absolutism, how does Polanyi see the nature of scientific truth claims, made as they are with universal intent. This will be the topic of chapters 3 and 4.

2. How does the epistemology of Polanyi attempt to overcome the dichotomy between fact and value? Is it successful? This question wil be addressed in chapter 4. 3.

3. How does Polanyi himself develop the place of ethical and religious knowledge within his theory of knowledge? This will be dealt with in chapters 5 and 6, respectively.

4. How do Puddefoot and Lesslie Newbigin develop Polanyi's epistemology in their views on truth claims made by the Christian community? This will be discussed in chapter 7.

5. What are the consequences of the epistemology of Polanyi as applied by Newbigin for a theology of the authority of religious truth claims, in particular of those based on sacred Scriptures? This will be discussed in chapter 7.2.

A Note on Method

The question of method confronts us at first glance with a problem. The problem is very similar to the one Newbigin raises with regard to Biblical authority. Either one must assume that the Bible is authoritative on its own merits, or one must attempt to prove Scriptures' authority by appeal to some extra-biblical standard (such as scientific discovery or human logic). However, in the latter case that extra-biblical authority will then determine to what extent the Bible is true. The matter, however, is not so simple. While the person who accepts biblical authority on its own merits assumes an uncritical attitude towards Scripture, so the person who subjects the Bible to some extra-biblical authority must accept such authority a-critically. Of course, I am already talking here in Polanyian terminology. What is true for Scripture is equally true for Polanyi. Each conceptual system can only be assessed from within itself or from within a rival conceptual system. The real question of truth,

however, according to Polanyi himself is whether you can (and do) reasonably commit yourself to what you hold true. The real question of whether Polanyi's epistemology is valid or not is whether I can honestly, authentically live within it, if I can indwell it, whether it lead me to truth that I can reasonably commit to, both as a scientist, an ethicist and a Christian (and I have worn all three caps).

Structure of Chapters

Chapter 1   Introduction

Chapter 2   Rationale and Historical Overview

Absolute truth claims are problematic in a pluralist society such as South Africa. Yet a tolerant society must move beyond relativism (2.1.1) and recognize that certain moral imperatives, such as tolerance and mutual respect, must be universally true (2.1.2).

This chapter first defines what was understood by absolute truth claims and the problems that resulted from the idea of the absolute (2.2.1). We formulate the research question (2.2.2). We then trace the history of the idea of absolute truth from its roots in ancient times to its heydays in modernist scientific thought and argue that evangelicals in the nineteenth century adopted the notion of absolute truth into their doctrines with a number of disastrous results (2.3.3). We conclude with a number of remarks on social constructivism (2.4)

Chapter 3   Polanyi's epistemology

This chapter introduces the thought of Michael Polanyi. The central theme in Polanyi's epistemology is that all knowing rests on a – often tacit – commitment. He demonstrates this fiduciary character of knowing by a critique of radical doubt

(3.1.2), an analysis of skills (3.2) – which he extends to the skill of using language – and a description of the process of scientific discovery (chapter 4). The fiduciary character of knowing comes to the fore in that the doubter, the speaker and the scientist indwell, respectively, a conceptual system, a language and a scientific school (3.2.3).

Chapter 4   Polanyi on Science

This chapter reinforces, by the example of science, Polanyi's idea that all knowledge involves acts of 'subjective commitment'. In the context of scientific discovery Polanyi argues that early scientists like Copernicus and Galileo were not satisfied to have described a new computing device, but maintained that they had described reality. They held their convictions with 'universal intent'. Polanyi argues (4.1) that scientists, while uncritically indwelling their traditions, can make such claims to describe the true state of affairs, because of their personal act of commitment to their findings, their subjection to the critique of their peers, and because of their expectations that their findings open up avenues for new discoveries. Polanyi's work has had a significant influence on the work of Imri Lakatos, whose theory of research programs will be discussed as a development of Polanyi's thought (4.2). The final section of this chapter (4.3) describes how Polanyi overcomes the dichotomy between fact and value by pointing out that scientific discoveries are purposeful acts and as such involve commitment and meaning.

Chapter 5   Polanyi on Ethics

The objectivistic view of knowledge leaves no space for values, and thus no space for morality or religion. Yet, as Polanyi has shown, values are always presupposed in the acquisition of knowledge. This may remain unrecognized, because it happens tacitly and subsidiarily. However, if these moral commitments are denied, they may resurface as 'scientific facts', something that Polanyi refers to as moral inversion, the re-surfacing of moral passions as pseudo-scientific commitments within ideologies

such as Marxism and fascism (5.1). The identification of moral inversion commits him to a distinction between moral passions and responsible choice (5.3). Polanyi distinguishes passions from appetites, and within the passions further distinguishes between intellectual passions and moral passions, and characterizes the latter, with art and religion as 'self-giving passions' (6.1). Responsible choice is governed by self-set rules, which are at the same time binding. Polanyi sees ethical discourse as arising from two conflicts, ie, the fact that we all fail the rules of morality, and the fact that morality is necessarily embodied in institutes of morality which are characterized by parochial loyalty, appetitive property and violent public authority (5.2).

Chapter 6: Polanyi on Faith

This chapter investigates Polanyi's assessment of religious faith and beliefs. Polanyi argues that there are many similarities between art, morality and faith, in that they are self-giving passions – in contrast to science which is self-centred. Art, morality and religion all have the ability to carry us away beyond ourselves and our conceptual systems (6.1).

Polanyi takes the experience of the believer in worship as paradigmatic for religion and characterizes religion as 'breaking out' of the systems we indwell (6.2.1). This happens in worship, where the believer confidently asserts the existence of God and surrenders to Him. Theology, as theoretical discipline, spells out the implications of worship and can only be true if it is an adequate expression of faith. Faith depends on facts, but only by transposing these into its own universe (6.2.2).

Polanyi's starting point in Gestalt has committed him to the recognition of purpose in reality, and requires of him to account for this in view of evolution. He rejects the standard mechanistic explanation that purposeful systems are the result of natural selection and states that purposeful systems need an organizational principle that is of a higher organizational level. He states that such organizational principles emerge during evolution under the influence of a cosmic field. Polanyi sees God as somehow related to this cosmic field (6.2.3).

An evaluation of Polanyi's thoughts on religion follows (6.3) and the chapter finishes with a look at some developments in contemporary Christianity in the light of Polanyi's views (6.4).

Chapter 7   Two Applications of Polanyi's Thought on Theology and Newbigin

In this chapter we will look at some depth at two theologians who have applied Polanyi's theories to their thinking about faith. Puddefoot hones in on Polanyi's distinction between tacit and explicit knowledge and argues that rational argumentation, such as in theology or in the science-religion debate must necessarily fail, because much that is important for the believer is tacit. (7.1.1) Puddefoot discusses whether this lays Polanyi open to the charge of subjectivism (7.1.2)

We will deal with Newbigin in a more extensive way as the latter more fully interacts with Polanyi. We will explore three areas where this interaction with Polanyi is prominent in Newbigin's thinking: his rejection of radical skepticism (7.2.1), his view of religious truth as primarily narrative (7.2.2), and his ideas on the role of the Christian community as the carrier of truth (7.2.3), as expressed in what he calls the doctrine of election (7.2.5). Although Newbigin agrees with Polanyi in his rejection of the fact/value dichotomy, like Polanyi, he identifies differences between scientific and religious knowing (7.2.4). Newbigin's starting point in Polanyi's epistemology leads him to see contextualization as the paradigm case of religious knowing (7.2.6). Finally we discuss a number of criticisms that have arisen with regards to Newbigin's use of Polanyi (7.2.7)

Chapter 8   Conclusions

This chapter will review the findings of the previous chapters in the light of the main research question and the sub-questions as set out in this chapter.

Glossary of terms used in this thesis

Absolutism

The claim that we can know with unshakeable certainty that a proposition corresponds with a certain state of affairs, provided the right methodology is used

Appetites and Passions

Appetites are grounded in our biological existence, and are directed towards bodily satisfaction

Passions belong to a higher hierarchical level, one that is essentially a social construct. We are thus the authors of our passions, but at the same time subject to them. They 'speak to us and convince us'.

Belief

Beliefs in Polanyi are propositions that are not questioned at the moment, and that are – usually – accepted on authority. Beliefs may be held explicitly or tacitly. In the latter case the believer will usually consider the proposition self-evident. Beliefs may allow critical evaluation. Some beliefs, however, cannot be justified. Examples of such beliefs are those in the existence of a reality outside the human mind, the existence of an ordered universe that can be described by means of mathematical formula and the existence of God.

Breaking Out

The opposite of indwelling: the process of crossing a heuristic gap. While normally we indwell a conceptual system (a language), in moments of scientific discovery, appreciation of art and religious experience we break out of the conceptual system.

Conviviality

The fact that beliefs and commitments are embodied within a community of like-minded people, who indwell a common frame of reference, and authenticate each other.

Dual control

The concept that entitles such as artefacts, biological organs and organisms and humans cannot be understood by reducing their explanation to the physicochemical level. They are governed by a hierarchical higher-level **operational principle**, that harnesses the laws of the lower levels to serve the purpose that the entity is 'designed' to serve.

Dynamo-objective Coupling

In cases of moral inversion, the notion that when scientific assertions are accepted as such because they satisfy moral passions, they will excite these passions further, thus lending increasing convincing power to the scientific affirmations in question.

Emergence

The notion that, given the right circumstances, a higher-level organizational principle spontaneously appears.

Fiduciary Component of Knowledge

The notion that every knowledge claim implies a personal commitment of the knower – with universal content - to believe such a claim to be a representation of the real state of affairs and a willingness to put this to the test by indwelling the belief.

Focal versus Subsidiary Awareness

A person exercising a skill is focally aware of the task at which the skill is directed, and subsidiarily aware of the instruments through which the skill is performed, and of the steps of the skill.

Framework

The 'web of beliefs' (Quine) and commitments, both explicit and tacit that a certain community (whether it be a scientific community or a community of faith) indwells. It is embodied in the shared 'language-game' (Wittgenstein) of this community, and may then be referred to as the conceptual framework. It determines what such a

community finds plausibly to be the case and what not, and may then be referred to as the 'plausibility structure' (Berger).

Heuristic Gap

Polanyi's variety of the incommensurability principle. A scientist who makes a new discovery or formulates a new theory has to cross the heuristic gap between the old and the new scientific paradigm. It is impossible to argue from the old paradigm to the new, because they are incommensurable.

Heuristic Passion

The second of the intellectual passions: the ability to intuit a novel solution, a hidden key to a hitherto unsolved scientific problem

Indwelling

An extension of the concept that we are in contact with reality through our body to include skills, language and beliefs. In a similar manner as we indwell our body we also indwell our tools, skills, language and beliefs.

Taggart (2002, 11), defines indwelling as 'the process of immersing oneself in the particulars of subsidiary awareness via embodied activity until these particulars come together as a meaningful whole'.

Justification

The justification of a proposition proves or affirms the truth of the proposition by logical (argument) or scientific (controlled observation) means. Polanyi's thought implies that, because of the many tacit commitments involved in believing a proposition, justification is not possible.

LaPlacean Science, LaPlacean Ideal

The notion that reality can be reduced to its physicochemical rules (movements of atoms and molecules), of which exact knowledge is possible.

Moral Inversion

The notion that when moral passions are decked out as scientific statements they are torn from their original moral context; these passions then become isolated and inaccessible to moral considerations. They become fixed upon the materialistic[2] equivalents of the original moral passion and result in a fanatical cult of power. This power is taken to embody righteousness and thus justifies immorality (Polanyi 1964, 231).

'The morally inverted person has not merely performed a philosophical substitution of moral aims by material purposes, but is acting with the whole force of his homeless moral passions within a purely materialistic framework' (Polanyi, 1951, 106).

The process by which fusion of scientific scepticism with utopian social aspirations produces the dystopia of moral and political nihilism out of which arises the modern totalitarian state, in which the only principle of social order is absolute coercive power and in which social welfare is embraced as the supreme social good (Yeager, 2002-2003, 23).

Operational Principle

The rule(s) which tell how to perform the action(s) for which the machine was designed (Polanyi, 1964, 176).

Polanyi, however, also speaks of the operational principle of language, of logic, of animals, of ontogenesis, etc. and then refers to the rules which determine their operation (ie, the operational principles of language determine how language communicates meaning).

Persuasive Passion

The third of the intellectual passions: the desire to convince other scientists of the new discovery. This passion is grounded in the commitment to hold the belief in the new discovery with universal intent.

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[2] The term is Polanyi's and he refers by it to the commitment of modernistic ideologies to welfare issues, such as income, housing, schooling and health care.

Plausibility Structure

A social structure of ideas and practices that create the conditions determining which beliefs are plausible within the society in question

Reality

The term reality will be used in this thesis to indicate the 'universe' that exists independent of the human mind. This, however, is a controversial term to describe Polanyi's thought, as he rejects the Cartesian distinction between *res cogitans* and *res extensa* and would reject a view that the human mind as thinking subject opposes itself to the material world as its object of enquiry. However, Polanyi maintains that there is a reality that our enquiries are about, and that resists theorizing about its nature.

Selective passion

The first of the intellectual passions: the ability of the scientific discoverer to intuit the importance of a problem to work on; the ability to guess right.

Tacit Knowledge

1. knowledge which the knower knows, but has not verbalized (ie, the steps of a skill that the knower possesses)
2. knowledge that cannot be expressed in words (eg, the difference between two synonyms, the sound of a musical instrument).

Universal intent

Universal intent combines the notion that if I believe something to be true, I believe it to be true for all, with the acknowledgement that I can err in my truth claims.

Chapter 2

Rationale and Historical Background

Abstract:

Absolute truth claims are problematic in a pluralist society such as South Africa. Yet a tolerant society must move beyond relativism (2.1.1) and recognize that certain moral imperatives, such as tolerance and mutual respect, must be universally true (2.1.2).

This chapter first defines what was understood by absolute truth claims and the problems that resulted from the idea of the absolute (2.2.1). We formulate the research question (2.2.2). We then trace the history of the idea of absolute truth from its roots in ancient times to its heydays in modernist scientific thought and argue that evangelicals in the nineteenth century adopted the notion of absolute truth into their doctrines with a number of disastrous results (2.3.3). We conclude with a number of remarks on social constructivism (2.4)

2.1   Rationale of the study

This thesis is an exploration into the nature of truth, and particularly of religious truth. The 20th century has witnessed the view of truth change from the stark objectivism of the analytical philosophers to the floating relativism of the postmodernists, where truth forever recedes beyond reach. Far apart as these epistemologies may seem, they agree on one point, however: they leave little space for religious and moral truth claims. Such claims are quickly relegated to the sphere of personal preferences, where they have no public consequences. This, however, does not imply that our postmodern society is not a moral society, but rather that moral imperatives are not given their true status as moral imperatives, but rather surface elsewhere, for instance as scientific propositions (see chapter 5).

2.1.1 Truth and Relativism

This is an unsatisfactory state of affairs, however. Not only does this not do justice to the religious commitments of many people of faith, it destroys the moral fabric of society. It has rightly been pointed out that only those who believe with universal intent, and are willing to argue their beliefs in the public sphere, are passionate about them (Walls 1998, see also Chapman 2004, Griffiths 1994), and only those who are passionate about their beliefs will live by them. Therefore, only those who are passionate about their beliefs can be truly 'interfaith'. Those who claim to be 'interfaith' on the basis of the view that 'after all, all religions are the same', merely enforce a post-modern pluralistic viewpoint – and an arrogant one at that – onto the discussion, as was already noted by Karl Barth, when he speaks about

> '… the relativism and impartiality of an historical skepticism, which does not ask about truth and untruth in the field of religious phenomena, because it thinks that truth can be known only in the form of its own doubt about all truth. That the so-called 'tolerance' of this kind is unattainable is revealed by the fact that the object, religion and religions, and therefore man, are not taken seriously, but are at bottom patronized. Tolerance in the sense of moderation, or superior knowledge, or skepticism is actually the worst form of intolerance' (Barth 1956, I, 17.2. See also John Azuma 2007).

A sentiment that is echoed by Van Kooten Niekerk (1998, 59):

> 'The problem with … all radical relativism is, of course, that the statement of relativism itself is not relative. It is meant to be universal. An universalizing statement of relativity is inherently contradictory: it means paradoxically, that cultural relativism is the philosophy of those who have themselves transcended actual cultural relativism. If the statement of relativism is, moreover, based on the notion of scientifically *objective* and *neutral* investigations of the anthropologist, it is *science* that is not relative but universal. This means that science is the *one* element of which it is tacitly assumed that it does not bind one culture ...'

Lesslie Newbigin, as we will see, maintains that this is indeed the case. He remarks that in the famous story of the blind men and the elephant often quoted in support of religious agnosticism, the real point of the story is often overlooked. For the story is told from the point of view of the king and his courtiers, who, of course, are not blind but can see

> '… that the blind men are unable to grasp the full reality of the elephant and are only able to get hold of part of the truth. The story is constantly told in order to neutralize the affirmations of the great religions, to suggest that they learn humility and recognize that none of them can have more than one aspect of the truth. But of course, the real point of the story is exactly the opposite. If the king were also blind there would be no story. The story is told by the king, and it is the immensely arrogant claim of one who sees the full truth which all the world's religions are only groping after. It embodies the claim to know the full reality which relativizes all the claims of the religions and the philosophers' (Newbigin, 1989, 9-10, see also Rupp 1989, 45ff).

2.1.2   Calls for a unifying vision

In recent years several calls have been heard for a unifying vision to guide the moral and political life of nations. For instance, Ramphela Maphele said,

> 'Herein lies South Africa's daunting challenge: to forge a shared set of core values for what is arguably the most diverse society in the world. The challenge is to agree on a common value basis, on a set of core values, a non-negotiable moral and ethical code that transcends individual cultural and religious boundaries … There is no doubt that without a shared set of core values the heart of our democracy and the soul of the nation will be under threat' (Quoted in Barrett 2004).

Likewise, in his State of the Nation address of 2002, South African president Thabo Mbeki referred to the 'common good' that would unify the nation in its struggle

against the problems of racism, poverty and AIDS. However, as Mark Chapman remarks, in a pluralist society such as South Africa, who defines this common good? And, once so defined, what guarantees that it will be shared amongst the widely differing population groups who until recently were 'extremely hostile to each other'? The creation of a South African identity needs to take into account such plurality and be tolerant of those with a different understanding of such identity (Chapman 2004)[3].

I assume that Chapman expects the values of pluralism and tolerance to be held with universal intent within South African society; but if so, they form part of this common good the existence of which he so much doubts. What should be the basis of such common good? For people of religion that can only be in their religious convictions. Max Stackhouse warns that the logic of philosophy, social analysis and moral judgment cannot sustain itself, but too easily bends 'to the unscrupulous interests that lurk in the heart of the best of us if it is not rooted in a holy, true, just creativity that is greater than we humans can achieve in our subjectivity' (Stackhouse 1997).

We need here to keep in mind a useful distinction proposed by Selvanayagam (1999, 60), between plurality and downright contradiction: 'Different colours, tastes and cultural practices are matters of plurality. But socio-economic discrimination and unjust struggles for power are matters of contradiction.' He also contrasts overlapping beliefs and practices between religions, with irreconcilable differences and incompatible elements. The problem, however remains how to distinguish between what is plurality from what is contradiction. For instance, even within one tradition such as orthodox Christianity there is no agreement about which part of the Torah are ceremonial (and thus 'plurality') and which are not.

In an article on South Africa's Truth and Reconciliation Committee (TRC) Deborah Posel (2004), makes the observation that there is an 'intriguing paradox' in late modernity between philosophical relativism with regards to truth claims, and 'a

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[3] Chapman defines the commitment to pluralism as 'the rights of others to exist as different and to participate in the decision-making process'.

reassertion of the social value of truth' in the political sphere, 'coupled with a renewed confidence in the prospect and importance of establishing reliably objective and authoritative benchmarks of truth' (Posel 2004, 4). TRCs are an important result of this conviction. 'Truth commissions not only assume that the pursuit of impartial, objective truth is *possible*, they also deem it to be fundamentally *desirable*. Truth commissions are predicated on the argument that truth is good – if not essential – for the prospects of democracy in previously authoritarian, violent regimes' (Posel 2004, 5). The complexities of work within the TRC, however, have led its commissioners to talk about a number of 'truths' (Posel 2004, 20, referring to TRC report volume 1, chapter 5), ie,

- Factual or forensic truth, which refers to the 'familiar legal or scientific notion of bringing to light factual, corroborated evidence, of obtaining accurate information through reliable (impartial, objective) procedures

- Personal or narrative truth: the validation of the individual subjective experience of people who had previously been silenced or voiceless.

- Social truth: the truth of experience that is established through interaction, discussion and debate

- Healing truth: truth considered for a particular – healing – purpose. This assumes that truth is always contextual and interest-bound.

Posel argues that these four 'truths' are incoherent, in particular factual and healing truth seem to be mutually incompatible. She wonders if this grid simply represents a multiplicity of truths, or whether they add up to a coherent, integrated whole (Posel 2004, 21). She concludes that, from a global perspective, the essential truth of the TRC was moral, rather than historical. The TRC, largely through its televised hearings, reaffirmed the tenets of a moral universalism … (Posel 2004, 23).

Polanyi, as I will demonstrate, has developed a concept of truth in which the first three of Posel's 'truths' are held in balance.

2.2   Absolute Truth Claims – a Definition

Since the 19th century Christians have started to refer to the standards and purposes of this holy, true and just creativity that Chapman refers to as 'absolute'. As this term

is central in this thesis, we will have to spend some time attempting a definition. The term absolute is an often used, but poorly defined term. The Thesaurus on my computer[4] lists a long line of synonyms, amongst which are perfect, complete, total, whole, entire, pure, unblemished, ideal, untarnished, unadulterated, supreme, certain, unequivocal, indubitable, sure, undeniable, and authoritative. What do we mean when we speak about 'absolute truth' in respect of knowledge? Let me start with an observation made by Alfred Ayer (2001, 84ff). I make a proposition, such as '*p is the case*'. If I instead say 'that *p is the case* is true' do I add any information to my first proposition? In fact you do not, Ayer remarks. You have not said anything more about *p*, than that *p* is the case. Suppose this proposition corresponds with an observable state of affairs, such as 'it rains outside'. This is true or not, there is no third way[5]. Therefore adding the words 'is true' to any proposition does not confer any further information. But what, extending Ayer's analysis, happens when I add '*p is absolutely true*'. Again, I add no further information regarding *p*. Rather, it is an indication of the measure of certainty with which we pertain to know that this proposition is the case: to say '*p is absolutely true*' is to say '*I know with unshakable certainty that p is true and it is impossible for me to be wrong about p*'[6]. For Ayer this would in principle be so for propositions dealing with observable facts, were it not for the problem of induction[7]. For the logical positivists, the possibility of absolute knowledge is directly related to the possibility of acquiring objective knowledge. Only knowledge to which we have immediate access can be certain.

2.2.1 Problems with absolutism

Absolutism, however, was wrong. It was wrong, because it was too pretentious. It was wrong also, because it allowed those, who thought they possessed this absolute truth, to rule over each and every aspect of life of those who did not see it (yet).

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[4] Microsoft Word 1997. In modern language studies – and Polanyi would agree with this – the meaning of a word is the use to which it is put in the 'language game' (Wittgenstein)

[5] This is known as the law of the excluded middle

[6] See also Rozenboom, 1993. He immediately concludes, however, that we do not know absolutely, and therefore makes the far-reaching conclusion that we have no knowledge at all. This claim, however, shows that he still is under the influence of absolutism as he agrees that only propositions held with absolute certainty can lay claim to being knowledge.

[7] The problem of induction arises from the impossibility of extracting general laws from a limited number of observations.

Absolutism is directly linked to power. Not only was that manifest in the large absolutist states of the twentieth century – the Nazi empire, the Communist state and the Apartheid state – it was already implicit in that first blueprint of the State ruled by absolute principles – Plato's *Republic*[8].

Take the Afrikaners, for instance. How was it possible that reformed Christians, with their doctrine of immediate access to God's truths in Scripture, could sell out their souls to such an un-Christian ideology as Apartheid? Charles Kimball, in an important study (Kimball, 2004), identifies five characteristics of such religious derangement: the identification of absolutist truth claims, the demand of blind obedience to a charismatic leader, the doctrine that the end justifies the means, the establishment of the ideal time and the declaration of a holy war. Armstrong (2001)[9] adds a sixth to this: the feeling of cultural marginalization. Not all of these were of equal importance in the development of the Apartheid state. But the appeal to absolute truth was certainly there. Like most absolute truth claims that appeal to the Scriptures, the Afrikaners maintained that theirs were rooted in the verbal inspiration of the Bible, which therefore was literally true in every detail. However, this commitment to the literal truth of the Bible proved for many of them to be mere lip service, as they relied rather on an authoritative interpretation of Scripture: they deferred to authority figures who defined 'the' Christian position on, amongst other things, racial issues. Such definitions of Biblical positions on various issues often make extensive use of proof texts, thus giving them an illusion of Scriptural authority (Loubster, 1987).

This leads us to an important observation about the Afrikaner Calvinists, though. While they thought they were 'tapping into the absolute truths of God's eternal will' towards races and nations, they were merely accommodating Christianity to the Enlightenment-Romantic paradigm of historicism. Neither were they unique in this respect. Evangelicals like to see themselves as the direct continuation of the Church of the first century, as described in the book of Acts. However, the evangelical

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[8] CF also the remarks that Barth makes about absolutism as idolatry of ideas in Barth, 1991, p 260. Cf Popper, 1945, 2003

[9] A similar point is made by Bob Goudswaard, in 1981, p 31ff

church historian Mark Noll has convincingly argued that American evangelicalism was rather a redefinition of many Scriptural notions in terms of the, then developing, American liberalism (Noll, 1993)[10]. Absolute truths prove disturbingly often to be historically determined. We have therefore to conclude that what looks like absolutism from the inside, turns out to be relativism from the outside. But if that is so, how dare the Church, who pertains to speak not her own opinion, but the eternal truths of the Sovereign Lord of the Universe, still speak in public? Evangelical apologetics seems to be blind to this problem. I believe this to be due to a confusion between making an absolute truth claim, and making a truth claim with universal intent. For instance, Mark Chan (2007, 306), argues that, 'To proclaim Jesus of Nazareth as Lord and Saviour is to make an absolute and universal truth claim. When the Church declares that He is the way to the truth about God and eternal life, she is making a statement about reality that is true for everyone and everywhere, and not just for Christians.' The issues are here clearly confused: the church is not making a statement of objective knowledge (knowledge that can be 'seen' – c f Hebrews 11:1), but one of faith. Yet this faith is believed with universal intent. Because of this confusion, the apologetic problem for the evangelical becomes 'to comment the truth of Christ to those who do not believe in the very notion of truth'

Should we not rather maintain that if there are any absolute truths, we sadly do not have access to them, and conclude with Russell's Wittgenstein, that if we have nothing sensible to say, we better say nothing at all?[11] There is a problem with relativism, though, and that is that nobody is, nor can be, a consistent relativist. If truth is only historical, how can we blame people for believing and acting on the basis of what was accepted as true at the time? If Apartheid was the accepted paradigm amongst Afrikaners in the 1950s, how can we blame anyone for acting on it? If Nazi-Socialism was the accepted paradigm in Germany in the 1930s and early

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[10] Evangelical is sometimes used to refer to the Churches of the reformation (as in evangelical-Lutheran Church), however in the context of this thesis it will be used regarding the movement that arose in the Unites States as a result of the Great Awakenings of the late 18th and early 19th century and that found its academic pinnacle in the theology of the late 19th century Princeton theologians Hodge and Barfield.

[11] Wittgenstein, 1961, 7: 'What we cannot speak about we must pass over in silence'. It is now generally believed that Russell misunderstood Wittgenstein's intentions. See for instance Brockhaus, 1991

1940s, how dare we persecute Nazis for war crimes? On a relativistic point of view we can only cynically define justice on the basis of power, so that whoever happens to be in power at the moment defines what is right and wrong – a standpoint already defended by one of Socrates' interlocutors in the *Republic*. Not only is this contrary to how the majority of us experience our world, it results from an unjustified identification of justice with morality: Justice refers to what is legally wrong or right, ie, what is considered just or unjust by a certain society; morality to what is ethically right or wrong, and thus refers to some higher standard than social agreement. The confusion of the moral and the ethical spheres is typical for some forms of postmodernism, that claim that all truth is nothing more than a social contract. This identification of the moral with the legal leads to the conclusion that the individual can never challenge the justness of state actions, provided they are in line with 'popular demand'. For instance, what was wrong with Bush's invasion of Iraq, if it was what 'the American people' wanted? Of course, this immediately leads to the next problem with postmodernism, for who are the American people? Note also that this identification of morality and legality comes in direct conflict with one of the main tenets of postmodernism, its concern to be a voice for the disempowered. It cannot be so unless it divorces morality from the reigning power structures

Somehow, therefore, we have to find a way of speaking truth with universal intent, without falling into the fallacies of absolutism. Such is the aim of this study. In the words of Monika Hellwig:

> 'The focus that draws our attention has shifted from the paradox of Chalcedon, the problem of reconciling claims as true God and true man, to a new kind of Enlightenment paradox. What we are confronted with now is the problem of reconciling the realization that ultimate truth cannot be possessed absolutely in a culture-bound medium like a particular language or historical experience with the equally strong realization that claims of ultimate truth are a necessary component of human life and religious faith and that there is no other way to express such claims but in a culture-bound medium' (Hellwig, 2002, 109).

2.2.2 The Central Question

Thus we come to the central question that this thesis will attempt to answer.

Given the fact that we have to agree that an absolutist concept of truth is no longer attainable, nor desirable, is there a way in which we can still testify to the truth and truths of God in the public sphere?

Someone, who does answer this question in the affirmative is the missionary, ecumenicalist and apologist Lesslie Newbigin[12]. Hunsberger once stated that, especially in his *The Gospel in a Pluralist Society,* Newbigin developed,

> '... what might be called a postmodern apologetic to undergird believing and testifying, and the recovery of what it means to be a missionary congregation that serves as the hermeneutic of the gospel' (Hunsberger, 1996).

Newbigin builds his apology on the epistemological basis laid by the philosopher of science Michael Polanyi. Why have I chosen for Polanyi and Newbigin? After all, Polanyi is not widely known as a philosopher of science, even by those who have made this their field of study (Mead, 2007, 298). And those who do refer to him, usually mention him in one breath with TS Kuhn, with whom indeed he has a lot in common. However, there are important differences, enough so that an argument against Kuhn is not automatically an argument against Polanyi. This is, however, the treatment that he often receives from philosophers and sociologists of science. Yet, there remains a body of Polanyi enthusiasts, even in the field of science, which mainly publishes in the journal of the Polanyian society, *Discovery and Tradition*. Imre Lakatos, although generally considered a disciple of Karl Popper, was significantly influenced by Polanyi as we will demonstrate. However, Polanyi's importance does not lie so much in the philosophy of science, as in theology. Polanyi has had an ongoing attraction for theologians that struggled with the place of religion in modern society, and in particular with the relation between science and

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[12] There are various biographies of Newbigin. A short summary can be found in Barrett, 1999

religion. Puddefoot, Torrance (1980), Wenzel van Huyssteen, Matthew Lamb (Kroger, 1991-1992, 12), Dulles (2001) and Milavec (2006), are all examples of theologians who entered into discussion with Polanyi.

Newbigin was thus not unique in his appeal to Polanyi's epistemology. However, of the mentioned theologians he was probably the most influential. Moving both in ecumenical and evangelical circles his influence is probably greatest in the latter. He founded the Gospel and Culture network. And the last two books that he published were based on a series of lectures on Christian worldview that he gave at Willowcreek Church, the church of Bill Hybels, the founder of the widely popular alpha-courses.

The main importance, however, that I attach to Newbigin is that I believe his work can form a theological starting point for what has been referred to as 'post-evangelicalism'[13]. A post-evangelical is somebody who stands in the reformed/evangelical tradition, and is strongly committed to some of its basic tenets, such as the authority of the Scriptures, the Sovereignty of God, the atonement made by Christ on the cross, and the need for a personal commitment to God. However, he is at the same time critical of this tradition, often because he has been severely hurt by leaders within the tradition. At the centre of what he is often critical about are issues about the way Scriptural authority functions in the tradition, a way that we have already referred to as absolutism. It is this absolutist understanding of Scriptural truth that has allowed certain evangelical leaders to impose their ideas and fancies onto their 'flock' by identifying these with the 'absolute will of God'. What post-evangelists are struggling with is the question how to rid the reformed/evangelical tradition of absolutism, while at the same time retaining the authority of the Scriptures as the eternal and universal word of God. It is the hypothesis of this study that the Polanyi/Newbigin epistemology can provide a satisfactory answer to this question.

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[13] A more recent reference is 'The Emergent Church'

2.3   Between Plato and Thrasymachus – historical background

2.3.1   The Birth of the Absolute

The absolute was conceived of by the ancient Greeks as a solution to a problem that had become urgent because of the 'birth' of science, a problem that they formulated as 'how does the Many relate to the One' (Popper 2006, 26). The early Milesians had uncritically assumed that the entire cosmos was made of a single substance, which they variably identified with water (Thales) or air (Anaximenes). Heracleitus of Ephesus, on the other hand, maintained that there was nothing solid or permanent about the world, everything was in constant flux, always changing, so that we 'never step into the same river twice'. With this insight Heracleitus had thrown a challenge into the arena for the fledgling scientific endeavour, the question how we can make universal statements about an ever changing universe (Lloyd, 1970, 36ff). The initial solution proposed by Parmenides, that all change was illusion, was in the extreme form in which he stated it unsatisfactory. However, his proposal exerted a strong attraction onto later thinkers, particularly on Plato.

Plato's interest in the problem was not scientific in the first place, but moral and political. Having lived through the Peloponnesian wars, the fall of Athens and the political upheaval that followed in which many lost their lives, including his beloved teacher Socrates, Plato was looking for moral universals. The teachings of Heracleitus had led in the field of morality to a form of relativism that was expressed by Protagoras with the statement that 'man is the measure of all things'. But that, as CS Lewis has pointed out, only means that some men are the measure of all things, that those in positions of power determine what is right – a position defended by Thrasymachus in what many consider to be the first truly Platonic dialogue, *the Republic*. It was in response to this, that Plato developed the idea of the Absolute (Aristotle, 1952, 1078b-1080; Popper, 2005, 16ff).

To solve the problem of how to make universal statements about an ever changing universe, Plato assumed – with Parmenides – that behind and beyond the world of

experience there was the world of the ever unchanging Ideas or Forms, the world of the Absolute. As such, this world was inaccessible to us, were it not that this world had thoroughly interacted with our world of experience. And thus knowledge of this world was a possibility. Plato here picked up another idea of Parmenides. The latter had distinguished between two types of 'knowing', opinion and knowledge. Opinion was uncertain knowledge; an opinion could be true or false, and therefore it was not really knowledge. Only knowledge that was indubitably certain deserved to be called knowledge:

> 'Come then, I will tell you – and do you for your part listen to my tale
>
> And pass it on – of those ways of seeking which alone can be thought of
>
> There is the way *that is and that cannot not be*
>
> This is the path of trust, for Truth attends it' [14]

Only such knowledge of what is, and is eternally, which is 'unborn, and imperishable, entire, alone of its kind, unshaken and complete', that which is 'not once nor will it be, since it is now, all together, single and continues' (F8) is true knowledge. Parmenides assumed a fundamental antinomy between everyday experience and abstract thought, and chose without further ado for abstract thought. He was convinced that by directing his reason to what was, by purifying himself from the naïve, daily experiences of the mortals, he could attain absolute certainty, rock-bottom knowledge. He introduced herewith what is probably the most fundamental paradigm shift that was ever proposed in philosophy, which left its mark on the entire further history[15].

Parmenides, and in his footsteps Plato, included common sense under opinion, and thus gave absolutism its fatal flaw. Plato illustrated this most poignantly in his *Allegory of the Cave*, with which book VII of his *Republic* opens. We are all like

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[14] Parmenides F3, Waterfield, 2000, p 58. NB in quotations of the Pre-Socratics, of which no primary sources have survived, but only quotations in the work of others (fragments), F3, F8 stands for fragment 3 and 8, respectively. See also F 7: 'do not let habit compel you, along this well-tried path to wield the aimless eye and the noise-filled ear and tongue, but use reason to come to a decision on the contentious test I have announced' (See also Lloyd, 1979 37ff).

[15] Bos, 1991

prisoners, chained in a cave, who see only the shadows of images carried behind us. In order to see the real world we must lose our chains, turn around, and learn to face the light of day. What the prisoners in the cave, ordinary men and women, think to know – common sense - is mere opinion. In order to obtain knowledge, one must learn how to think right, one must find the key that will unlock the door to true knowledge. It is striking that Plato pointed to mathematics as the paradigm of absolute knowledge, and taught that the Absolute could be approached (although never reached) by a process of ever increasing abstraction. From the love of beautiful things one learned to love beautiful women (those who are different from yourself). From the love of beautiful women one learned to love beautiful boys (those who are the same as you), and from them the love of a beautiful mind (hence 'Platonic love'). From the love of a beautiful mind one graduated to love of beautiful ideas (philosophy) until one finally reached the Idea of Absolute Beauty (*Symposium, Pheadro*).

Heidegger[16] remarks, 'It was in the Sophists and in Plato that appearance was declared to be mere appearance and thus degraded. At the same time Being, as an idea, was exalted to a supra-sensory realm. A **CHIASM?** *chorismos* was created between the merely apparent essent (*Seiendes*) here below and the real being *(Sein)* somewhere on high … The first major division of reality, thus, was a dualism between the realm of things and the world of ideas. This led to the split vision of object/subject thinking, where man views the world through the grid of his own concepts. Reality becomes a conceptualized object of thought.'

It should be kept in mind what Plato intended with his philosophy: The *Allegory of the Cave* is found in the middle of a political treatise, a description of the ideal city-state. Although within the *Republic* this state functions as an allegory for the human mind, Plato's political experiment at Syracuse leaves no doubt that he intended to try and realize his republic. What brought Plato to involve himself with the dictator

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[16] Quoted in Thiselton, 1980, p 332-335. Popper talks in this context about *methodological essentialism* (Popper, 2005, 29).

of Syracuse he already announced in the *Republic*. His state would be realized when an enlightened ruler would team up with a philosopher. Plato maintained that it was the philosopher who was furthest on the way to knowing the Absolute, who was closest to possessing true knowledge, and therefore if the philosopher could be brought down from his contemplation of the Absolute and rule the state, justice and happiness would prevail. It is striking that the philosopher-king, who because he had access to the absolute, knew what was best for his subjects, could now embark on deception and infanticide if he (or she, Plato allowed women to become philosopher-queens) thought this in the interest of the state. Absolutism in thought leads to absolutism in practice: the knower of 'absolute truths' becomes the absolute ruler. The danger for religious belief is evident[17].

Under the influence of Platonism absolutism thus came to imply knowledge that is not immediately available to all, but requires privileged access. This seems a contradiction with the characterization of absolute knowledge that we gave in the introduction, but is the consequence of the widespread assumption in Western thought that what is held to be true by common sense is not knowledge but mere opinion – propositions of which we do not know whether they correspond to states of affairs. In order to know which opinions are true – are knowledge – and which are false, one needs to be initiated into the right method of distinguishing truth from falsehood. This is one of the major tenets of the Platonic tradition, and well illustrated by Plato's allegory of the Cave[18].

Plato compares the process by which knowledge about the Ideas may be obtained with the method of mathematics. Here another theme becomes apparent that would later play a major role in Enlightenment thought: that of mathematics as a prototype of obtaining absolute knowledge. Platonism was a secularization of Pythagorism: the religious primacy of mathematical contemplation as a way of

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[17] Kimball, 2003, 41ff

[18] Such, at least is the traditional interpretation of the allegory of the Cave, and, although more recent, alternative interpretations have been proposed, these are irrelevant as our concern here is with the influence of Plato's triple allegories (ie, the Sun, the Line and the Cave) on subsequent Western thought and particularly that of the sixteenth and seventeenth century. See, eg, Cross and Woozley, 1980: 196-228

salvation becomes the epistemological primacy of contemplation of the Ideas as a way to absolute knowing. And with that the mythical primacy of the realm of the gods becomes the ontological primacy of the realm of the Ideas[19].

It is tempting to speculate about a connection between the vision of the absolute as it developed in early Greek philosophical thought and the adoption of the alphabet, and therewith of the written word in Greek society. The alphabet came to Greece from the Phoenicians in the 8th century BC, but for a long time Greece remained essentially an oral culture, in which man 'spoke in prose, but composed in verse'[20]. For a long time thereafter poetry was associated with myths, and prose with history. The earliest known written prose, however, was philosophical, and arose out of the need to formulate and convey thoughts in a precise and accurate form (the earliest Greek philosopher, Thales, was of Phoenician descent). Referred to here are works such as *On Nature* of Anaximander, and *Description of the Earth* of Hecateus. Within spoken discourse there is a close relationship between the meaning of the speaker, the reference of the text and the understanding of the hearer, mediated through a common environment. As Ricoeur[21] points out, the spoken word is the event in which 'private experience is made public, where impressions become expressions, where the psychic is transferred to the noetic'. In spoken discourse the reference has the character of immediacy, because the speaker is there, is part of the situation of the interlocution. This has the consequence that the meaning of the speaker and the reference of the text overlap to such an extent that they are identical.

However, in written discourse this close relationship between meaning, reference and understanding disappears. The fleetingly spoken discourse becomes fixed in an exterior bearer. This has the result that the coincidence of meaning and reference is disrupted: the text escapes the finite horizon lived by its author. One of the fallacies that this may result in – if one does not remind oneself that a text is always a discourse by somebody told to somebody else about something – is what Ricoeur

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[19] See Bos, 1991
[20] Murray, 1998, 216
[21] Ricoeur, 1976

calls the fallacy of the absolute text, which hypothesizes the text as an author-less entity. Thus Rousseau could complain that writing ignored its addressee just as it concealed its author, thereby causing separation, tyranny and inequality. It is tempting to postulate that such an absolutizing of the text of the discourse – Socrates refers to it in the Phaedrus 274-277 – gave rise to the idea of the absolute. Absolute truth requires an absolute detachment between the meaning of the sentence and the intentions of the speaker. Could we reverse this? If it is possible that a discourse can become absolutely detached from its author, can exist in total independence of its author (and this indeed is the ideal of objective truth), could it be that the referent of the discourse is absolutely true? Not always, of course, there was too much disagreement. But then, could one formulate the conditions under which absolute discourse became absolute truth. Parmenides' famous poem gives an argument very close to this.

2.3.2   The Absolute in Modernity

Plato's ideas have been of immense importance for Western cultural development, in particular in the period which we refer to as the modern period. If we limit ourselves to this latter period, the modernist saw himself fulfilling Plato's programme through the scientific method. This, on the classical interpretation, was the central idea of Bacon's philosophy of science, 'that absolute truth can be discovered in science by applying a purely mechanical procedure.'[22] Although the scientists themselves hardly ever claimed their knowledge to be absolute, they referred to it as 'objective', which, however means more or less the same: universally valid, and independent of the human knower. It is important to

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[22] P Urbach, 1982, p 113, who immediately contests this view arguing that Bacon held to a falsificationist view much akin to that of Popper. That modern science saw itself as fulfilling Plato's programme of finding absolute knowledge remains true, despite the shift from what Popper calls methodological essentialism to methodological nominalism. According to Popper's definitions, essentialists such as Plato and Aristotle and many mediaeval scientists maintained that 'the task of pure knowledge was to discover the hidden nature (Form, essence) of things'. Modern science is nominalist and aims at describing 'how a thing behaves in various circumstances, and especially, whether there are any regularities in its behaviour' (Popper, 2005, 29-30). For the change from looking for essences to universal laws see also Popper, 1979, 194ff).

appreciate what they meant by this. There is no such thing as knowledge that is not known by somebody, no knowledge independent of a human knower. What we know, as Locke and Hume had pointed out, is not the world around us, but only the sense experiences that we have of this world. However, sense experiences are tainted by other things than what our senses perceive, things like our emotions, our expectations and the limits of the conceptual framework in which we describe them. How could you obtain objective knowledge when you have to start with such subjective sense experiences? The answer was through the scientific method. Science was the key through which the door to objective knowledge could be opened. Indeed, all scientific programmes, be they Baconian induction, Popperian falsification, randomized double-blind trials or meta-analyses are aimed at this one thing, to exclude human bias from the things we claim to know, so that we may obtain objective knowledge. Science indeed aims to fulfill the Platonic program.

The first problem with Absolutism is that its knowledge claims are exclusive: they exclude other knowledge claims, in particular those of common sense. We are all familiar with the jest, 'if the theory conflicts with reality, the worse for reality.' It is of course true that science has rightly refuted some common sense claims, the most quoted is the common sense impression that the sun, moon and stars revolve around the earth. However such instances have not been many, and it is certainly not a reason to distrust common sense as a matter of course. After all, science itself rests on a number of improvable common sense certainties, such as the fact that in science we reach into a real world out there, that the methodology of logical reasoning is valid, that the physical universe is governed by laws that can be discerned by the scientific method. Polanyi, in his critique against the programme of universal doubt - as I will show – argues that we simply cannot start with a universal rejection of common sense knowledge claims, but always have to assume some of these claims, on the basis of which we then can critique other claims.

The faith in science as the key to absolute, objective knowledge could be maintained as long as the story of scientific progress could be believed. The twentieth century, however, has dissipated this story as an elaborate myth. Although there is still reason to believe that knowledge acquisition in the natural sciences (physics,

chemistry, geology, astronomy), is expanding, such claims become much more dubious in the social sciences or in the humanities. Sigmund Freud's attempt to build up a psychological theory using the scientific method is now considered a mixture of Victorian prejudices and improvable theorems, albeit interspersed with a few useful insights. Much worse, however, was the damage inflicted by those who followed Plato's programme to the end. Marx sought to apply the scientific method to economics. He believed his results to be objective knowledge. His followers, believing in Marxist science to have the key to the absolute, saw themselves as the new philosopher-kings in true Platonic style, and started a programme of social engineering, mass murder and deception. Similarly, Social Darwinism led to murder of those considered to be genetically weak and eventually to genocide. Social Darwinism is the extension of Darwin's theory of natural selection and survival of the fittest into socio-cultural life, and amounts to the demand that the weak should be left to their fate, or may even be eliminated if they take resources away from the fittest[23]. Social Darwinism was combined with the German *eugenetics* movement by Erwin Liek and Karl Kötschau in the 1920s and 1930s and led to the *'euthanasia'*, first of the physically and genetically weak individuals, and later of the genetically weak races[24]. *Th*e similarities with Plato's sentiments about proper medicine expressed in *The Republic 406-408* are uncanny:

> 'And therefore, our politic Asclepias may be supposed to have exhibited the power of his art only to persons who, being generally of healthy constitution and habits of life, had a definite ailment; such as these he cured by purges and operations, and bade them live as usual, herein consulting the interests of the State; but bodies, which disease had penetrated through and through, he would not have attempted to cure by gradual processes of evacuation and infusion; he did not want to lengthen our good-for-nothing lives, or to have weak fathers begetting weaker sons – if a man was not able to live in the ordinary way he had no business to cure him; for such a cure would have been of no use either to himself, or to the state.'

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[23] Watson, 2001, 39-44
[24] WT Reich, 2001

When Liek and Kötschau shifted the target of medical care from the individual to the Volk (Liek talked about 'the meaninglessness of the individual in the larger biological picture. The individual human is only the temporary bearer … the caretaker of the perpetual protoplasm'[25]) Platonic medicine became a reality:

> 'The manipulation of the idea of care coupled with the creation of a new principle of care was a major tool … in justifying cruelties in the name of medicine during the Nazi era. The moral result was that physicians and nurses were expected to carry out medical offenses, even atrocities, not simply in obedience to political grotesqueness, but on the basis of a medical philosophy that was offered as continuous with at least some of the fundamental and traditional functions of being a doctor. Consequently, the principle of *Vorsorge*[26] … provided a 'rational' standard for the medical care of the *Volk* in a way that favoured eugenetic policies, enforced sterilisation, and the extermination (mendaciously called 'euthanasia') of large numbers of handicapped people which occurred in the most ordinary of medical avenues.'[27]

Those who still believe that science discovers objective truth have been quick to dispel psycho-analysis, Marxism and social Darwinism as 'pseudosciences'. It has however, proven much harder to define the boundaries between science and pseudoscience.

2.3.3 Evangelical appropriation of The Absolute

Although modernity was initially embraced by the new protestant movement, particularly by the English Puritans, in the nineteenth century science set itself up increasingly as a rival truth claim to religion. In particularly the American

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[25] Like, quoted in Reich, 2001, p 67
[26] prevention
[27] Reich, 2001, 68

evangelicals[28] reacted to this by setting up Christian truth claims as absolute[29]. Klapwijk[30] points out that the term, the 'absolute truth of Christianity', was interpreted in two different ways:

1. The 19th century theologians who developed Hegel's idealism in theology, interpreted the absoluteness of Christianity in eschatological terms. Idealism saw history as a continuing opening up of germinative ideas that had come to full maturity in modern times. Idealism initially saw itself and its times as the culmination of history. The idealistic theologians such as Ernst Troelsch likewise saw Christianity as the culmination of the history of religions, but when the continuation of history proved the idealists wrong, the absoluteness of Christianity was either given up, or placed into an unreachable future.

2. More important, however, were the absolutist claims of the 'supernaturalists'[31]. The 19th century Church wanted to indicate with the term absolute that the Christian message was no human intervention, but came from God. The truth of Christianity is therefore a truth of supernatural origin, which contradicts the religious sentiments of men. With the revelation of Christ the eternal has entered the world of time. This truth can rightly be called absolute, because it transcends the vicissitudes of temporary life, and the history of religions. Klapwijk maintains that this concept of absolute truth finds its origin not in Scripture, but in the supernaturalism of Aquinas, which, following the dualistic model of classical Platonic philosophy, superimposed the natural and the supernatural, the human and the divine, the relative and the absolute. Tomlinson points out that the absolutism of the 19th century

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[28] Yong, 2008, p 24, remarks that the term evangelical is an ambiguous term, that can be defined 'according to the usage of some of the Protestant reformers, or the pietists of the seventeenth century, or the revivalists of the eighteenth century, or the holiness Methodists of the nineteenth century or Pentecostal/charismatic churches of the twentieth century.' The term used here will refer to the evangelical movement that originated in the Great American revivals of the late eighteenth century, and that found its academic solidification in the Princeton theology of Warwick and Barfield.

[29] The opening chapter of Charles Hodge's Systematic Theology are a good example of this kind of thinking.

[30] Klapwijk 1995, p 33ff

[31] The story is told in detail in Frei, 1974

evangelical was modeled on the epistemology of science, and that the emotional and supernatural appeals, often encountered in evangelicalism, do not negate this fact. The evangelical understands and expresses truth in an 'absolutist, scientific manner'[32].

Now a rival key to open the door to the absolute was proposed, the key of revelation. The absolute truths were identified with the literal text of Scripture. This proved devastating to theology, and for a number of reasons. The first was, that Scriptural truth claims were interpreted based on the nineteenth century model of scientific truth claims. The direct result was that where Scripture made claims about the physical universe the evangelical scientist felt compelled to reject the claims of science. This led to a series of unnecessary conflicts and debacles, such as the infamous Scopes trial, that did much damage to public Christianity[33]. More damaging to evangelical theology, however, was the tendency to identify certain Scriptural sayings as absolute (the so-called proof-texts) because this created the problem of what to do with texts that seemed to contradict such proof texts. The usual solution was called 'to explain Scripture by Scripture' which basically boiled down to interpreting the 'difficult' text in such a manner that it no longer contradicted the proof text.

The second problem of evangelical theology was the result of an earlier development which took place during the Pietistic revival. I am referring to the move of the referent in the biblical text away from the text itself to behind the text. This development is well described by Frei, who refers to it as the *Eclipse of the Biblical*

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[32] Tomlinson, 1995

[33] In 1925 a young biology teacher, John Thomas Scopes was put on trial for teaching evolution in opposition to a state law in Tennessee which outlawed the teaching of evolution in all state schools and universities. The expert for the prosecution was William Jennings Bryan three times a presidential nominee and a former secretary of state. Before the trial he predicted that it would determine whether evolution or Christianity would survive. He also said, 'All the ills from which America suffers can be traced back to the teachings of evolution. It would be better to destroy every book ever written, and save just the first three verses of Genesis' The defence was led by the skilled lawyer, Clarence Darrow, who managed to expose Bryan as someone who did not know much about the age of the earth or of well-known archaeological sites. Although the trial was won by Bryan, he was humiliated and mocked in the press and died three days after its conclusion. See Watson, 2001, 207. A transcription of some of the speeches of Bryan and Darrow can be sourced in Gaustad, 1993, 347-355

Narrative. While before the truth claims of Scripture were considered to be about the historical events that were related in the Scriptures, now such stories were thought to refer beyond them to absolute truth claims, of which the stories were merely specific incidences. In his exposition the preacher was supposed to distill the absolute truth from the event narrated, so that the believer could apply this to his or her own situation. It is easy to see the Platonic influence in such a scheme.

How did the evangelical access the absolute truths from Scripture? He used a method reminiscent of the inductive method of Baconian science, where a number of Scriptural references were collected which seemed to bear directly on the doctrine in question. From such proof texts the 'clear councils of God' could be simply induced. Once such Scriptural truths were identified, the case was closed, and, as already pointed out, any new Scriptural evidence was brought in line with what was identified as the absolute truth. Unfortunately the evangelical theologian did not sufficiently realize that this method involves a number of human decisions, not the least of which is the decision 'which texts to accept as proof texts, and which not'. The effect of a method like this is that Scripture is effectively silenced, as it no longer can challenge our absolute doctrines. The epistemology of Polanyi will highlight this human element in all our knowing, as we will demonstrate.

An example is the potential conflict that may arise between the Ten Commandments, and the Deuteronomian summary of the law in the command to love God above all, and the neighbour as one loves oneself. Evangelical ethical teaching has a tendency to consider the Ten Commandments as absolute, while the love-command is interpreted as relative to the Ten Commandments, even to the extent of maintaining that keeping the commandments is the very nature of love. So one would tell an abused child that she could only fulfil God's will by submitting to her parents, a terminal cancer patient that it was God's will that everything should be done to prolong his suffering. Note that in typical Platonic fashion we have here again a theory whose consequences violate common sense, an anomaly that is justified by a call to faith and trust in the 'inscrutable wisdom of God'.

Graves[34] argues that reformed thought, from the time of Calvin to the emergence of Princeton fundamentalism, manifested a 'steady move away from subjectivity and toward more objective affirmation of biblical authority'. Biblical authority was, in the debates with secular modernism, placed on a purely rationalistic basis[35]. This led to neglect of 'the central role of spiritual experience' and the 'role of the Holy Spirit in authenticating the truth of Scripture.' In Calvin's theology the Scriptures are authenticated because the Spirit bears witness to them in our hearts. Without the witness of the Spirit, no-one would believe and therefore he deemed attempts to penetrate to God, not so much error as madness.

This view of Biblical authority was radically changed when the Princeton theologians revived the Calvinist scholasticism of Francis Turretin. The latter had structured theology as a logical system, and had redefined faith firstly as assent to propositional truths, and only secondarily as a personal relationship of trust with Christ through the Holy Spirit. He saw Scripture as an a-historical body of propositions that formed the basis of inerrant information on which a universal philosophy could be built. The introduction of Turretin's thought in American evangelicalism, through Princeton theology, has led to a redefinition of faith from a personal encounter with God to assent to doctrinal statements, or – as Graves puts it – 'the rigorous rationalism of Protestant scholasticism has obscured the deep piety of the Reformation faith.'[36]

2.4   Social Constructivism

I now need to make some framing remarks about the other pole in the contemporary approach to truth, social constructivism. Absolutism has now been thoroughly discredited. The great absolutist systems of the twentieth century, Marxism, Social Darwinism and its offshoot Nazism, Western Colonialism including Apartheid, have all served to blemish the Platonic ideal of the rule of the

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[34] Graves, 1998
[35] Newbigin's critique on this move was that if Scripture needs to be validated on the terms of modern rationality, it will be subjected to another rationality than its own.
[36] Graves, p 541. See Hicks, 1998, though, for a more nuanced view of this history.

philosopher-king. The same holds true of the earlier Protestant experiments to build a society on the absolute truths of revelation, such as the England of Cromwell, or the Pennsylvania of the Puritans. There was, however, a deeper problem with absolutism, and that is that twenty-four centuries after Plato we seem to be no closer to agreeing on what the absolutes actually are: doctrines that were propagated fifty years ago as absolute truths now seem hopelessly parochial.

The conclusion, however, is disturbing. It seems that Thrasymachus was right after all, and Plato was deceived by his own cleverness. Justice is merely what the mighty, those in power, define to be in their interest. This theory received a big impetus by two developments that occurred in the last century. The first may be referred to as the linguistic move. In the nineteenth-century the French linguist Frederick de Saussure had redefined the meaning of words. While up until then it had been assumed that the meaning of a word lay in the referral it made to an objective reality, de Saussure stated that the meaning of a word was determined by its place in a language system. The meaning of the word purple is determined by its relationship to the other colour words, in particular to red and blue. In fact, the meaning of purple must change the moment we introduce the term violet. It is easy to underestimate the importance of this move: where before de Saussure words referred to a reality 'out there', after him words referred to nothing outside of language (Derrida). Where in the nineteenth century words were instruments with which an objective reality could be described, in the twentieth century, words became spectacles by which our view of reality was coloured and often distorted. Words and languages, of course are cultural artifacts and the idea that our culture constructs our view of reality, by determining the conceptual framework through which we stand in this world, is known as social or cultural constructivism. Social constructivism got a major boost from a hypothesis formulated by two armchair scientists, the Sapir-Whorf hypothesis. Sapir and Whorf had concluded, on the basis of comparative study of a number of languages, that the language we speak determines the way we think. Language determines thought.

A related movement is associated with the name of Michael Foucault. Rather than looking at language Foucault was interested in the institutions of modernity. He

demonstrated how such institutions were used to define normal from abnormal behaviour. While the great motif of modernism had been that knowledge is power, Foucault turned this around and maintained that power creates knowledge. Those in power would define their own behaviour as the standard, and then brandish other minority behaviours as deviant, insane or criminal. They did so through the great institutions of modernity, the prison, the asylum and the hospital. His ideas were further developed by feminist scientists who maintained that modernity had defined the male as the norm, and the female as the deviant, and by anti-colonial scientists who showed how the Western colonialist had defined the Westerner as normal and the other as deviant. As a purely descriptive theory there is much worthwhile in Foucault. However, Foucault was a disillusioned Marxist, and his theory bears this legacy from Marxism that it combines the descriptive with the normative. This legacy has its roots in Platonism, but it differs from it in the following way: where modernist Platonism aims to reach the absolute by seeking the right methodology, postmodern Platonism has given up on this search as it believes that all methodology is corrupted by the 'will to power', the desire to dominate. Instead it seeks to find truth in those who, it believes, have not been corrupted by power: the oppressed, the powerless, the woman, the colonialised, the marginalized, the 'Jew' (Lyotard). The feminist scientist is not interested in the opinions of a man, because she does not believe him to be capable of objective knowledge. That is now the prerogative of the woman, because she is free from being influenced by the pulls of power. This of course, seems like a hopelessly naïve dream, and contrary to common sense, but then Platonists have never cared about common sense and never been afraid to have impossible dreams. Postmodern Platonism has led to similar attempts at social engineering (such as affirmative action), which seem to be as impotent to reach their desired goals as the social engineering projects of modernism.

Postmodernists are eclectic, and although Foucault's post-structuralism and social constructivism are essentially different, most social scientists use a combination of both. The reason for this is that a social scientist does not merely want to describe the world. She is out to change it, and social constructivism does not provide any direction for such change. If all knowledge is determined by power interests, then

there is nothing you can do about this but wait until the power changes hands. The epistemological privilege of the oppressed, however, provides such direction because it places the truth into the hands of the oppressed.

Social constructivism, albeit now the preferred approach in the social sciences, is however problematic. Firstly, although heralded as a scientific method, one can place great doubts about whether it deserves this name. Take for instance Popper's falsification principle. Although Polanyi is right in maintaining that the principle does not save the objective character of scientific truth claims, this does not imply that we can abandon it altogether. A proposition that is falsifiable (that there are horses on earth) has a better claim to be true than one that is not (that there are unicorns on Jupiter). The problem with many social constructivist theories is exactly that they cannot be falsified. A fatal flaw in many social constructivist theories is that they invoke Freudian depth-psychology to explain away what does not fit with their theories, and Freudianism is itself a pseudoscience. Feminism maintains that women think and behave in a certain way, and those who don't are corrupted by patriarchism. In this way the theory is always confirmed, but it can never be falsified.

Social constructivism, however, has other problems, not the least being that the Sapir-Whorf hypothesis has fallen into discredit. Not only has the scientific footing on which they based their hypothesis been severely criticized, in particular from the circles of the cognitive scientists alternative hypotheses have been put forward which seem to assume a primacy of thought over language. Steve Pinker speaks in this context about 'mentalese', a pre-linguistic mind 'language' which is translated into the language of the culture in which the individual was raised. Meanwhile the evidence of psychological universals - common patterns of perceiving, of thinking, of expressing emotions, of language, and even of knowledge contents (moral imperatives, folk-biology) - accumulates.

2.5   So Where to From Here?

It should be evident that this situation is not sustainable. As Fuller (1993) has described, the field seems to be divided between philosophers of science on the one hand, who either hold to an attenuated form of the correspondence theory of truth (weak foundationalism), or who reject the philosophy of science altogether (some forms of naturalized epistemology), and on the other hand, sociologists of science who maintain that science is just another social construct whose claims to truth are at best problematic. From the point of view of a physical scientist the debate seems to be silly[37]. The scientist believes that in the discoveries of science he really comes to know and understand the behaviour of quarks, the nature of light or the intricacies of human immune defense. To the scientist the idea that he (or the scientific community), merely 'makes these things up' is ridiculous and insulting. The enormous success of physical science, up to and including biology in changing the prospect of our world, seems to belie any suggestion to such extent. Yet, the honest scientist also realizes that false avenues have been walked in the history of science, and, more importantly, that often scientific models and theories have been limited by the limitations of our knowing. Yet they do not consider such problems insolvable: sooner or later scientific progress will correct them.

There have been a number of attempts to bridge the divide between objectivism (absolutism) and social constructivism, between the objective and subjective poles of knowledge claims. What interests us in such attempts is that they have been applied by theologians to save theological knowledge claims from the pure subjectivity that they had been assigned by the logical analytics of the earlier part of the twentieth century. For instance; Muller of Pretoria has adopted post-foundationalism; NT Wright critical realism and Lesslie Newbigin Polanyi's personal knowledge, to understand religious truth claims. We will, in what follows, first take a detailed look at Polanyi's work on epistemology, and then at Newbigin's use of it in his understanding of faith.

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[37] Personal communication with Prof. em. J. Bindon, dep. of physics, University of KZN

Chapter 3

The Epistemology of Michael Polanyi

Abstract:

This chapter introduces the thoughts of Michael Polanyi. The central theme in Polanyi's epistemology is that all knowing rests on a – often tacit – commitment. He demonstrates this fiduciary character of knowing by a critique of radical doubt (3.1.2), an analysis of skills (3.2) – which he extends to the skill of using language – and a description of the process of scientific discovery (chapter 4). The fiduciary character of knowing comes to the fore in that the doubter, the speaker and the scientist indwell, respectively, a conceptual system, a language and a scientific school (3.2.3) .

3.1   A Critique of Objectivism

3.1.1   The absurd idea of strict objectivism

Newbigin relies, in the epistemological grounding of his work, on the work of the Hungarian scientist-philosopher Michael Polanyi[38]. Polanyi's philosophy of knowledge is offered as an alternative to what he called the 'absurd' idea of strict objectivism (Polanyi, 1964, x), which he saw embodied in Positivism[39]. He aimed to forge an 'attempt to break out of this highly stabilized framework and to enter avenues of legitimate access to reality from which objectivism debars us' (Polanyi, 1964, 292).

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[38] For a biography of Michael Polanyi (1891-1976) see Wigner and Hodgkin, 1977
[39] On p 269 of *Personal Knowledge* Polanyi more correctly speaks of Objectivism, although Positivism is the logical and radical consequence of the development objectivism set in motion.

Polanyi gives an extended analysis of 'what may be designated, if somewhat loosely, as Positivism' in his *The Logic of Liberty* (1951, 8). Positivism is the continuation of the rebellion against the authority of the Christian Churches which was first started in the time of Bacon and Descartes. However, Positivism aimed not only to 'liberate reason from enslavement by authority', but also to rid it from any guiding ideas that could not be demonstrated by science. It identified truth with scientific truth and tended to define the latter as a mere ordering of experience.

Justice, morality, custom and law – referred to as values – came to be seen as mere sets of conventions, charged with emotional approval (Ayer, 2001, 104ff). Man became a system responding to a certain range of stimuli. The ideal of a positive science was one that involved no affirmation of personal beliefs:

> 'Under the guidance of such concepts we are expected to become truly detached and objective in our approach to the whole world, including our own selves and all the affairs of men. Scientific man shall master both his inner conflicts and those of his social environment and, set free from metaphysical delusions, henceforth refuses to submit to any obligations that cannot be demonstrated to lie in his proper interest' (Polanyi, 1951, 9).

On the other hand, beliefs were regarded as 'arbitrary personal manifestations', which must be discarded in order to achieve scientific detachment.

Although the positivist claim of detached knowledge is now widely recognized to be false, Polanyi was one of the first to point this out (Kuhn's *The Structure of Scientific Revolutions* would only see its first edition in 1962). He demonstrated that scientific findings were accepted not on the basis of their evidence – as positivism declared – but because they fitted in with accepted scientific theories. Positivist theorists employed, Polanyi analyzed, three strategies to avoid the weight of his analysis:

o First, by reducing the claims of science to a more moderate level: scientific claims do not profess to be true, but only to be probable. But this, Polanyi replies, is beside the point. What is in question is the claim to objectivity, not the level of certainty with which it can be made.

○ Secondly, by claiming that science does not claim to discover the truth, but only to give a description or summary of observational data. But if this were so, then what is there to choose between scientific explanations and those of, say, astrology?

○ Thirdly, by arguing that scientific statements do not claim to be true, only to be simple. But, again, Polanyi retorts, scientists do not reject Biblical or astrological theories because they are not simple enough.

Elsewhere, Polanyi makes a similar argument in his criticism of the principle of induction. Bacon had introduced the idea that induction was the way in which scientists come to new discoveries. Induction or 'the rule of empirical inference' claims:

- To proceed by a prescribed operation from clues to discovery, or at least

- To show how to verify, or at the very least

- To show how to falsify an empirical proposition according to some such rules (Polanyi, 1964, 167)[40]

With this last statement Polanyi refers to Popper's falsification principle. Popper set this principle up as a 'demarcation criterion' between science and what he sees as 'pseudo-sciences' – amongst which he reckons astrology, psycho-analysis, Marxism and metaphysics. The falsification principle implies that true scientific theories state the conditions under which they will count themselves as having failed, and are therefore critical.

Polanyi rejects the first claim because of the incommensurability principle, or – as he refers to it, the heuristic gap. It is, he says 'a travesty of the scientific method to conceive of it as an automatic process depending on the speed of piling up evidence for hypotheses chosen at random' (Polanyi, 1964, 167).

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[40] Fuller (1993) has argued that a major problem with either of these criteria is whether they are descriptive, and merely state 'the logic of science', or prescriptive, and thus form a criterion for what may be accepted as a sound scientific theory. In other words, do they merely describe how scientists do their work, or do they function as a criterion for what may be called science and what not?

The second and third rules are equally unfounded, as different scientists will interpret any rule for correct scientific procedure quite differently, according to the particular view about the nature of things that they are guided by. As we have seen, within two different interpretative frameworks the same set of observations may take on a completely different meaning. The rules of induction have in the past lent support to quite unscientific beliefs, such as that in astrology. On the other hand, the destruction of belief in witchcraft was achieved in the face of overwhelming evidence for its reality (Polanyi, 1964, 168)[41]. The reason why such inadequate formulations were accepted 'lies in the desperate craving to represent scientific knowledge as impersonal' (Polanyi, 1964, 169). What makes this self-deception possible is the tacit coefficient: the scientist can accept the most inadequate and misleading formulations of his own scientific principles without ever realizing what is being said, because he automatically supplements it by his tacit knowledge of what science really is.

Scientific statements are – at least to some extent – based on belief. Polanyi suggests that we must distinguish between personal preferences – such as the love for one's wife and children – and scientific beliefs, which are held with a claim to universal validity and thus possess normative character. Embracing a belief of the latter kind means accepting a commitment. Beliefs can thus only be said to be sincere or insincere. Sincere beliefs are those to which we are committed. Detachment means therefore, if held sincerely, commitment to a particular approach. The choice for one approach implies the rejection of other approaches, and the approach chosen by positivism is a complete causal interpretation of man and human affairs. However, this results in a complete disintegration of all rational grounds on which man can hold convictions and act on these convictions, including scientific convictions:

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[41] Kuhn describes verification as a form of natural selection, where the 'most viable among the actual alternatives in a particular historical situation' is chosen. It therefore makes no sense to ask 'how well an individual theory fits the facts'. However that does not mean that we can still compare theories: 'It makes a great deal of sense to ask which of two actual and competing theories fits the facts *better*. Kuhn 1996, p 146-147

'It leaves you with a picture of human affairs construed in terms of appetites, checked by fear. All you have to explain then in order to understand history, and with it politics, law, science, music, etc, is why at certain moments the appetite of one group gets the upper hand over its rivals' (Polanyi, 1951, 28).

Because positivism is false, Polanyi maintained, the positivist movement, 'having first exalted science to the seat of universal arbitrament, now threatens to overthrow and destroy it' (Polanyi, 1951, 9).

3.1.2   A critique of doubt[42]

Polanyi starts out with proving the absurdity of the objectivist epistemology by a critique of doubt[43]. To doubt any explicit statement merely implies an attempt to deny the belief expressed in that statement in favour of other beliefs which are not doubted for the time being (Polanyi, 1964, 272)[44]. Such explicit doubt can be of two types (See also Quine and Ulian 1970, 10):

1. **Contradictory doubt**. If, with respect to a proposition of the form 'I believe p', this proposition is contradicted, it is opposed to a statement 'I believe non-p'. It is clear that both propositions are of the same form. They only differ in the contents of what is believed. Radical doubt, as proposed by Descartes can thus never be of this form.

2. **Agnostic doubt**. This is more complex, as it is composed of two parts. The first part is a contradictory doubt, which can either be temporary ('I believe p is not proven') or final ('I believe p cannot be proven'). So far, the structure of the doubt is similar to a contradictory doubt. However, an agnostic doubt involves a claim about the credibility of p, and this goes above a mere

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[42] Polanyi at several places in his work expresses an indebtedness to Quine. A good summary of the latter's thoughts can be found in Quine and Ullian, 1970.

[43] Although the critique of doubt comes much later in *Personal Knowledge*, in the introduction to the 1964 edition, he suggests that this critique is fundamental to his further thinking on truth claims.

[44] Cf. Kuhn's remark that in scientific practice the real confirmation questions always involve the comparison of two theories with each other and with the world, not the comparison of a single theory with the world. Kuhn, 1977, p 211.

contradictory doubt. A statement about the credibility, or validity, of a proposition is a statement about the believability of this proposition (or its denial) and is thus a statement about belief[45] and a belief itself. Polanyi refers to this as a fiduciary[46] statement. That is the second part of agnostic doubt (Polanyi, 1964, 273). Radical doubt, in fact, is agnostic doubt.

During the 17th and 18th centuries scientists opposed and discredited an entire system of supernatural beliefs. The fiduciary character of this skeptical scientific movement, however, will become clear if we look at its blunders: the same skepticism led scientists to ignore evidence for the existence of meteorites (because popular belief tended to attach supernatural significance to it) or for the value of hypnosis (Mesmerism[47]). That we see these doubts now as unreasonable is because we no longer consider the falling of meteorites or the practice of hypnosis as incompatible with the scientific worldview. We are able to fit such events into this worldview. In normal scientific practice results that do not fit in with the current scientific paradigm tend to get ignored. This is not a passive process. A scientist must commit himself to any important claim made in his field of knowledge. If he decides to ignore the claim, he implies that he believes it not to be of importance. He can therefore be only strictly agnostic about 'things of which he knows little and cares nothing' (Polanyi 1964, 275).

Formally declared beliefs can only be held true because of a logically anteriorly accepted conceptual framework (Polanyi 1964, 287)[48]. Such a framework takes the form of a number of implicit beliefs. They tend to be very stable in resisting the impact of adverse evidence. Those who indwell such systems regard their all-

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[45] Such as the statement that p is *in principle* unknowable, for instance, the logical positivist's claim that ethical and religious truth claims were not truth claims at all and therefore meaningless.
[46] By the term fiduciary Polanyi implies that all knowledge involves an act of commitment or faith.
[47] Arthur Conan Doyle's Professor Challenger, with a mind open to anything that science can prove, is a figment of imagination. See his *The Lost World and Other Stories*, in particular *The Land of Mist*.
[48] Bowman (1982, 76) puts it in this way: 'all knowledge *of* must rest upon knowledge *from* an interpretive framework that is its defining ground'

embracing interpretative powers as evidence of their truth[49]. Polanyi ascribes this stability to three characteristics of such systems:

1. The circularity of the system (Polanyi 1964, 289). This refers to the fact that the objections to the system can be met one by one in terms of the conceptual system. The effect is that the system is strengthened rather than challenged. Circularity operates by divided roles, when a number of people holding the same set of presuppositions confirm each other's interpretation of experience[50].

2. The automatic expansion of the circle in which an interpretative system operates (Polanyi, 1964, 291). The system readily supplies elaborations which will cover almost every conceivable eventuality, however embarrassing these may initially seem. In the Ptolemaic cosmology, to accommodate evidence that was not compatible with a uniformly circular motion of the planets, the existence of epicycles was postulated – hence the term epicycles in scientific theories to refer to this expansion of systems. All major interpretative frameworks have an epicyclical structure which supplies a reserve of subsidiary explanations for difficult situations.

3. The principle of suppressed nucleation (Polanyi 1964, 291), refers to the way an interpretative system denies any rival concept the ground in which it might take root. This is related to the first characteristic: the acceptance of a new concept can only be established by a series of relevant experiences, which would all refute the old, and be in favor of the new concept. However, such evidence cannot accumulate in the minds of people, if each of them is disregarded in turn.

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[49] The concept that a web of presuppositions, within which a certain theory is located, can always be adjusted to accommodate novel facts and apparent disconfirmations is referred to as the Dubern-Quine hypothesis (Anderson et al, 1986, p 235)

[50] Polanyi gives a number of examples of such circularity, amongst which the 'confessions' during Stalin's reign of terror. Because the accused shares the fundamental presuppositions of his accusers (ie, that if a boiler explodes there must have been an act of sabotage – a viewpoint that excludes accidental damage) he will eventually allow himself to be convinced of his guilt.

These three mechanisms lend a degree of stability to a conceptual framework, which Polanyi describes as the measure of its completeness[51].

As Polanyi had argued, in 1952, one of the mechanisms by which a conceptual system acquires stability is through language. The 2000-3000 words in common usage in a certain language form a vocabulary which constitutes a definite theory of all subjects that can be talked about[52]. Therefore,

> 'So long as we use a certain language, all questions that we can ask will have to be formulated in it and will therefore confirm the theory of the universe which is implied in the vocabulary of the language. It follows that we cannot state without self-contradiction within a language any doubt in respect to the theory implied by the language. The only way to dissent from the theory of the universe implied in a language is to abandon some of its vocabulary and to learn to speak a new language instead.'

The circularity of the theory of the universe embodied in a particular language is manifested in an elementary fashion in a dictionary of that language: the meaning of any word that is doubted at the moment is defined in terms of other words in that same language, which are at this moment not doubted.

On this basis Polanyi rejects the possibility of universal doubt (Polanyi, 1964, 295). Universal doubt that does not contradict itself would entail an infinite abandonment

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[51] These principles can be seen at work in the following citation from Evans-Pritchard regarding his famous study on Azande witchcraft beliefs (of which Polanyi was aware). 'All their beliefs hang together, and were a Zande to give up faith in witchdoctor-hood, he would have to surrender equally his faith in witchcraft and oracles … in his web of belief every strand depends on every other strand, and a Zande cannot get out of its meshes because it is the only world he knows. The web is not an external structure in which he is enclosed. It is the texture of his thought and he cannot think that his thought is wrong …'
And again, '… Azande do not see that their oracles tell them nothing! Their blindness is not due to stupidity, for they display great ingenuity in explaining away the failure and inequalities of the poison oracle and experimental keenness in testing it. It is due rather to the fact that their intellectual ingenuity and experimental keenness are conditioned by patterns of ritual behavior and mystical belief. Or, to put it in another way; they reason excellently in the idiom of their beliefs, but they cannot reason outside, or against their beliefs because they have no other idiom in which to express their thoughts …' Quoted in Horton, 1995, p 322-323.
[52] This is reminiscent of Quine's insistence that the unit of meaning is not the sentence, but the language, which constitutes a 'web of belief'. See also Anderson cs (1986, p 154).

of 'hitherto accepted systems of articulation'. We must, in other words, forget how to speak. Polanyi,

> 'At the risk of stating the obvious, it should be made quite clear what exactly is implied in this assumption of a mind, which could escape its judgment on all questions without any preconceived opinions. It cannot mean the mind of a newborn child, since this lacks sufficient intelligence to grasp any problem and discover solutions for them. A virgin mind must be allowed to mature until the age in which it reaches its full natural powers of intelligence, but would have to be kept unshaped until then by any kind of education. It must be taught no language, for speech can be acquired only a-critically, and the practice of speech in one particular language carries with it the acceptance of the particular theory of the universe postulated by that language ...' (Polanyi, 1964, 295).[53]

Polanyi's thought-experiment names impossible after impossible condition. And then, can we expect this mind to come up with truth? Of course not, for it will fall into the same mistakes that perception always causes us to make. We have to account for 'the fact that every perception of things, particularly by our eyes, involves implications about the nature of things which could be false' (Polanyi, 1964, 296). Universal doubt is thus impossible. Therefore, those who advocate philosophical doubt in fact mean to say that they 'want their own beliefs to be taught to children and accepted by everyone, for they are convinced that this would save the world from error and strife' (Polanyi, 1964, 297). Polanyi illustrates this by a statement of Russell, 'Thus rational doubt alone, if it could be generated, would suffice to bring in the Millennium.' Yet 'doctrines' Russell opposes were often expressed in terms of doubt. For instance, the papal encyclical of 1950 *Humani Generis* warns Catholics against evolution theory because it is still an unproven hypothesis. Russell, however, would brand *such* doubt as irrational. Since the skeptic

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[53] It would be interesting, however, to see how Steve Pinker's congenitally deaf person would fare in Polanyi's experiment

does not consider it rational to doubt what he himself believes, advocating 'rational doubt' is just the skeptic's way of promoting his own beliefs (Polanyi, 1964, 297).

3.2 An Analysis of Knowledge as a Skill

3.2.1 Two Distinctions

Human knowledge, Polanyi concludes, rests on belief. This fiduciary statement is intrinsic to what he refers to as the *tacit component* of knowledge. In order to clarify Polanyi's position here, we have to look at two distinctions that he makes, that between *focal* and *subsidiary awareness* and that between *tacit* and *explicit knowledge*.[54]

Focal and subsidiary awareness (Polanyi 1964, 55-57). Suppose a surgeon exploring a wound-cavity with a probe, Polanyi suggests. He is aware of both the probe and the cavity, but in different ways. He is aware of the pressure of the probe in his hand, of any shocks and resistances transmitted through the probe into his hand, but his attention is focused on the cavity. Indeed, we may say that the sensations in his hand are instruments of his attention. The probe has become an extension of his hand. Focusing on the sensations in his hand would actually make it impossible for the surgeon to make an estimate of the wound cavity. Therefore, he has a *subsidiary* awareness of the feelings in his hand, which is merged into his *focal awareness* of exploring the cavity. Both are mutually exclusive: a pianist who shifts his attention from the piece that she is playing to what she is doing with her fingers gets confused and has to stop playing. In fact, we have only mastered a skill, such as playing the piano, riding a bike, or performing an operation, when we become able to shift our attention from the particulars to the whole (the tune, the bike-ride, the operation). When focusing on the whole, we are subsidiarily aware of its parts. This can also be

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[54] Polanyi in this context expresses his indebtedness to Gestalt psychology. It is interesting to note that Gestalt also influenced Thomas Kuhn's thinking (see Kuhn 1977, p xiii). C.f. the following quote: 'It is as elementary prototypes for these transformations of the scientist's world that the familiar switch in visual gestalt proves so suggestive. What were ducks in the scientist's world before the revolution n are rabbits afterwards. The man who first saw the exterior of the box from above now later sees its interior from below. Transformations like these, though usually more gradual and almost always irreversible, are common concomitants of training. Looking at a contour map, the student sees lines on a paper, the cartographer the picture of a terrain' (Kuhn, 1996, p 111).
For the influence of Gestalt on philosophy, see Cat, 2007. He traces the Gestalt idea back via Ehrenfels and Ghoete back to Kant's first critique (p 138). The Gestalt psychologist, however, rapidly advanced beyond Kant, when they maintained that gestalts are not imposed onto reality by the human mind, but are objectively real.

expressed in terms of meaning: if we discredit the usefulness of a tool, its meaning as a tool has gone. When something (a tool) is seen as subsidiary to a whole (the skill) this implies that it participates in sustaining the whole, and this may be regarded as its meaning within the whole (Polanyi 1964, 58)[55].

Acquiring a skill, shifting our attention from subsidiary to focal awareness, can also be regarded as the act of making them form part of our own body. The surgeon learns to 'feel' with the probe, we 'hit' with a hammer. The tool becomes part of the operator. We 'pour ourselves out into them and assimilate them as parts of our own existence. We accept them existentially by dwelling in them' (Polanyi 1964, 59).[56]

It is here that Polanyi makes the greatest advance on Quine, whose thoughts he otherwise follows, and it is at this point where Newbigin can make the greatest use of Polanyi's work for his view on the Christian Scriptures and the world view they create – in the concept of indwelling: whereas Quine maintains that the only observation a scientist makes in an experiment are the 'blops' on his monitor, Polanyi maintains that the scientist, by indwelling his instruments and theories does indeed observe the motions of the elementary particles.

Polanyi, in an article from 1961, refers to Gestalt as the origin of this idea:

> 'Gestalt psychology has proved quite generally that we cannot focus our attention on the particulars of a whole without impairing our grasp of the whole; and that, conversely, we can focus on a whole only be reducing our awareness of the particulars to the contribution they make to the whole. We may call the latter a subsidiary awareness of the particulars in terms of our knowledge of the whole that is subserved by them ' (Polanyi 1961, 239).

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[55] The cognitive psychologist John F Anderson describes the acquisition of procedural skills in 3 stages. During the *cognitive stage* explicit rules for implementing the procedure are identified. During the *associative stage* these rules are extensively practised, usually in a highly consistent manner. In the *autonomous stage* the rules are used automatically and implicitly with a high degree of integration, speed and accuracy, while the attention shifts elsewhere (ie, subsidiary). He calls the entire process *proceduralisation* during which slow, explicit information about processes (knowing what) is transformed into speedy, implicit skills (knowing how). Sternberg 2002, p 270-271.

[56] Polanyi's ideas seem to be confirmed in a recent study from Kirsh and Maglio (1995) on the different actions performed when playing the computer game Tetris.

Explicit and tacit knowledge. Polanyi introduces the term 'tacit component' in a discussion on language. Suppose, he says, that we could replace each sentence ever spoken in English with an eight-letter symbol. This would make language exact: each symbol would stand for this statement, and for nothing else. However, that would completely destroy language. Not only would it be impossible for somebody to remember each one of these symbols (there would be 26^8 different symbols), but the meaning of language symbols depends on their repeated use (Polanyi, 1964, 80). Therefore we find ourselves in the paradoxical situation that, in order to describe experience more fully, language must be imprecise. But this requires that both speaker and listener must make a choice about what the exact meaning of a word must be in a given situation. This imprecision requires an inarticulate judgment as to which of these indeterminate words best conveys our meaning. 'Only by the aid of this tacit coefficient could we ever say anything at all about experience' (Polanyi 1964, 86-87).

Words convey meaning, acquired by the experience of hearing others uttering them in our presence, or of using them ourselves. Therefore, when reading a text, I am subsidiarily aware not only of the meaning of the text, but also of 'all the past occasions by which I have come to understand the words of the text, and the whole range of this subsidiary awareness is presented focally in terms of the message' (Polanyi, 1964, 92).[57] Therefore, 'just as owing to the ultimate tacit character of all our knowing, we remain ever unable to say all that we know, in view of the tacit character of meaning, we can never quite know what is implied in what we say' (Polanyi, 1964, 95).[58]

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[57] Note that Marjorie Green argues that this is not the gist of Polanyi's idea of tacit knowing. 'What is essential is not the existence of the tacit, but the *relation* of the tacit to the explicit (…). The tacit component is not a residuum, but an indispensable foundation.' (Quoted in Mullins, 2002, p 208).

[58] Puddefoot (1980) remarks: 'Students of the New Testament are familiar with this idea. Many … a quotation from the Old Testament in the New explores meanings that were – as far as we know – completely outside of the viewpoint of those who originally wrote them down. There is no reason to assume that this process has ceased after the completion of the New Testament. The doctrine of the Trinity is a good example, and so is Anselm's influential doctrine of vicarious satisfaction (see Pannenberg, 1968)

Tacit Knowing and Medical Expertise

Polanyi's concept of tacit knowing has been confirmed in recent research on medical decision making (Patel et al, 2002). In the early stages of this research the medical expert was considered to be a 'coolly dispassionate, hyper-rational physician systematically considering well-defined options (ie, therapeutic choices or diagnostic alternatives) on the basis of careful weighing of the evidence'. His less competent colleague was subject to bias and did not consider the probabilities of the alternatives. The expectations were that the more expert a doctor becomes, the more rational his choices become and the less biased. Much research was done identifying possible biases and determining how often doctors were subject to such biases. The findings of these studies showed the unexpected result, not only that doctors make biased decisions, but that the more experienced a doctor becomes, the more biased his decisions are. Rational decision making (decision making based on first principles), is characteristic of medical students and junior doctors. Experts only make rational decisions when confronted with a, for them, unacquainted situation. Normally senior doctors make decisions based on exemplars and analogy, what Kuhn refers to as paradigm cases. The experienced clinician recognizes a clinical scenario as similar to one he has successfully managed previously. The process by which this recognition takes place has much in common with the process of face recognition. It is based on a Gestalt integration. He then spends a while broadening the similarity between the two cases, before treating the new patient along similar lines as the previous one. This again is similar to the process of face recognition, where the individual 'checks' the face that he sees against the features of the familiar face that are stored in his memory, before deciding that he is, indeed, seeing the familiar person. This is borne out by the fact that a specialist usually forms an opinion about the patient's diagnosis rather early in the clinical encounter, while a student or junior registrar takes much more time to form an opinion, after she has gathered all information and weighed all options[59]. It is striking that this paradigm

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[59] This may be illustrated as follows: when a patient presents to his surgeon with pain and tenderness in the right lower abdomen, associated with a lack of appetite, the chances are that he is suffering from an appendicitis. A simple test is usually done to confirm this: the surgeon slowly presses on the

shift in the understanding of medical decision making was inspired by a dissatisfaction with the symbol processing approach, which interpreted knowledge purely in analytical terms, and with the recognition of the importance of 'non-symbolic' and 'distributed' models of cognition (Patel et al, 1995, 421).

3.2.2 Language and Meaning

The usefulness of words in a language depends upon a certain indeterminateness of their meaning: only words that have indeterminate meaning can have a bearing on reality (See also Jarki, 1999, 27ff). We may attempt to eliminate this indeterminate residue by use of verbal definitions. However, in order to define a word, we must rely on watching the way the art of using a word is authentically practiced[60]. This, however, involves a judgment, *in casu*, what we regard as authentic. The formalization of meaning thus relies from the start on the practice of un-formalized meaning. However, it does also so at the end, as we are using undefined words in the definition. Definitions therefore merely shift the tacit coefficient of meaning

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tender side of the abdomen, and then quickly releases his hands. If releasing the hands is more painful than pressing on the sore part, it is likely that the patient has an appendicitis. That is the story you will find in most textbooks of surgery. The real story, however, is different. If you would operate on all patients with a suspected appendicitis according to the textbooks, you would probably end up taking out one normal appendix for each sick one. In fact, only about half of the patients sent in by their general practitioners with a possible appendix end up being operated upon, the rest gets better spontaneously. Still, surgeons take out normal appendixes, but usually about one for every 9 sick organs. What is also striking is that a trainee surgeon takes out more normal appendixes than an experienced consultant. Why? How does the consultant 'know' which appendixes to take out, and which not? The answer – and I am one of these experienced surgeons – is, 'I cannot tell'. I usually know when I examine a patient with a possible appendicitis what I will find at the operation, but if I try to explain how I know that, I cannot get beyond the textbook description. If you want to know more, you have to join me at the bedside, where I will show you. But I cannot tell you. That knowledge is tacit (and tacit in the strong sense).

[60] This comes very close to the view of the later Wittgenstein, as eg, in 1960, 4, 'But if we had to name anything which is the life of the sign, we should have to say that it was its use.' See also Wittgenstein 1992, sections 138, 432. Barry Stroud (1996, 310) elaborates: 'The 'use' of an expression as it is relevant to meaning is the distinctive role the expression plays in the activities in which human beings utter it and respond to it as they do. Those actions and responses can help identify that meaning only if they are seen and understood as intentional; to describe them to those agents is to ascribe attitudes with intentional contents. A description in non-intentional terms of what happens whenever certain sounds are uttered or certain marks are made would not say what human beings are doing with those sounds or marks. It would leave the sounds and marks 'dead' or without 'life' or meaning.' Polanyi emphasizes the importance of intentionality in language. Language is a skill - as well as a conceptual system - with which we 'probe' the world, and as all skills is essentially intentional.

from the word defined to the undefined words used in the definition. They do not eliminate it. This tacit coefficient is an act of confidence and thus can be misplaced (Polanyi, 1964, 250).

Descriptive words can be used in two ways: either confident or direct, when we rely on their meaning, or skeptical or oblique, when we question the concept or the reality they refer to. We often indicate the latter in writing by putting the word in quotation marks. The difference between the two uses lies in the trust we put in these words – in other words, in the tacit coefficient of their utterance. However, even though we may question each word in a language in turn, we can never question all at the same time. We cannot put a whole sentence between quotation marks – there will always be some words we need to rely on at the time in order to be able to communicate. The risks of confident utterances are therefore unavoidable. This implies that a word cannot mean anything in itself. Only a speaker or a listener can mean something by a word[61]. As a rule, however,

> 'I do not focally know what I mean, and though I could explore my meaning up to a point, I believe that my words must mean more than I shall ever know, if they are to have any meaning at al.' (Polanyi, 1964, 252).

Taggart points out that Polanyi's philosophy gives an important value to metaphors.

> 'He recognizes that simple, concrete words can have multiple levels of meaning in that we grasp the more comprehensive dimensions of experience by attending from the less rich and comprehensive … metaphors exceed the physical conditions that initially generate them. Understanding what 'the bread of life' means involves drawing on our experience of eating bread but also its significance as global food. Polanyi, like Ricoeur, argues that

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[61] This may be clarified by a remark from TS Kuhn about the meaning of words used in science. Kuhn says that the parties in a paradigm change 'inevitably see differently certain of the experimental or observational situations to which both have recourse. Since the vocabularies in which they discuss their situations consist, however, predominantly of the same items, they must be attaching some of these terms to nature differently, and their communication is inevitably only partial. As a result, the superiority of one theory over another is something that cannot be proven in the debate. Instead … each party must try, by persuasions, to convert the other (Kuhn, 1996, p 198)

metaphors are not reducible to propositional statements without a loss of meaning' (Taggart, 2002, 15).

Bowman extends this to the role of tacit knowing in art:

> 'A given statement may, for instance, be variously perceived as trite or deeply profound, depending upon the tacit supporting context one brings to bear. Works of great art of course provide the most compelling evidence of this truth, revealing as they do almost limitless diversity of meaning. One does not at some point 'unpack' all that a truly great symphony has to offer, hearing it the same ever after. As an explicit entity it may change little or not at all, but on the tacit level it changes dramatically, continually' (Bowman, 1982, 78).

Therefore, any philosophy that sets up strictness of meaning as its ideal is self-contradictory. A truthful statement commits the speaker to a belief in what he has asserted. He 'embarks in it on an open sea of limitless implications' (Polanyi, 1964, 253). An articulate assertion is thus composed of two parts:

- A sentence conveying the context of what is asserted
- A tacit act by which this sentence is asserted

Or, more formally, the statement of the analytical philosopher 'p is true' is true if and only if 'p is true', should be rephrased as 'p is true' is true if and only if I believe that 'p is true'[62]. Only such a statement combines the personal character of our knowledge with its universal intent. Now, of course, a problem arises. For does this not apply to the statement itself (Polanyi, 1964, 253)? If words can only mean what I mean by them, how can they signify anything? Therefore,

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[62] Note that Polanyi's use of the term 'believe' is not covered by the usual meaning of the word, but as will be explained shortly, involves commitment and universal intent. Although having good reasons for the belief is part of believing as well, but they do not exhaust what Polanyi implies by believe, neither are they always necessary. There is a stage in the process of scientific discovery where we may be warranted to have a belief without having explicit reasons for it, and there are beliefs that can never be justified. See also Patterson, 2004. Note the similarity of this statement with the statement of agnostic doubt.

'It might seem that we have saved the concept of meaning from destruction by depersonalization, only to expose it to being reduced to the status of dogmatic subjectivity' (Polanyi, 1964, 253)[63].

3.2.2.1 Is Meaning Private? Polanyi and Wittgenstein

If all statements of truth ultimately rest on some fiduciary act, it may be objected that you can believe what you like. This is the paradox of self-set standards (Polanyi, 1964, 256). The entire process of justifying my beliefs may appear nothing but a futile authorization of my own authority.

> 'Yet, who convinces whom here? If man died, his undeciphered script would convey nothing. Seen in the round, man stands at the beginning and at the end, as begetter and as child of his own thought. Is he speaking to himself in a language he alone can understand?' (Polanyi, 1964, 256).

Polanyi's problem is very reminiscent of Wittgenstein's remarks about private languages. As may be recalled, Wittgenstein argued that it is impossible to give meanings to words relating to private experiences, as it is impossible to be certain that such meanings follow rules. Suppose I have a sensation *'s'* – say pain – to which I refer to as *S*. But how, Wittgenstein remarks, do you do that? It is impossible to give a definition of *'s'*. Neither is an ostensive definition possible, because what do you mean by 'pointing at a sensation'? The only thing you can mean is that you convince yourself that you will remember the connection between the sensation and its meaning right in the future – however what criterion can you use for correctness (Wittgenstein 1992, 258)? Wittgenstein argues that such a criterion can only be found in the practice of a language game. The private language argument does not only show the impossibility of giving meanings to private sensations, it in fact

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[63] By depersonalisation of knowledge Polanyi refers to the fact that the absolutist sees knowledge as objective and thus impersonal. Against this Polanyi argues that there is not such a thing as knowledge which is not embodied in a knower.

undermines the entire Lockean epistemology, which maintained that we have only access to our own ideas. However, as Blackburn (1990, 82ff, has pointed out, this is not necessarily so for any private meaning. Quoting an example of Michael Dummett, he makes us suppose a born Robinson Crusoe who over the years would find a method to solve a Rubik's cube that had washed ashore on his island. Certainly we would have to admit that Crusoe had found a criterion for correctness for what could have nothing else but private rules? Apparently Wittgenstein's practice is not sufficient in itself as an explanation for correctness. The practice ought to involve procedures of assessment, acceptance and rejection.

Polanyi's solution is along similar lines as Wittgenstein's. There are no purely individual beliefs. Beliefs are shared by a 'like-minded community' (Polanyi, 1964, 263, who together indwells and lives according to such beliefs. Polanyi speaks here about **conviviality**. Polanyi's however, avoids Wittgenstein's problem because he indeed does formulate such processes of assessment, acceptance and rejection, as we will see in the next section.

Another point needs to be made. Polanyi's last statement indicates that his truth-concept is not as relative as the picture he paints of it in these pages. Two other strands in his thoughts need to be picked up to balance this picture. The first one is that the speaker, when making a proposition with a claim to truth, assumes that he is speaking about reality – assumes to make a statement about how things really are (Polanyi, 1967)[64]. Polanyi expresses this by saying that such statements are made with universal intent. Secondly, as already remarked, such statements are always made within a community of like-minded seekers after truth (conviviality). He works out these ideas within an analysis of scientific discovery, which will be discussed in the following chapter

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[64] Indeed this is the way that Torrance understood Polanyi, according to the following quote: 'Since the intrinsic structure of reality is consistent and universal and is independent of our knowing it, scientific commitment to the investigation of the world through submission to its compelling claims on our mind carries with what Polanyi calls 'universal intent'. But because the statements formulated under the authority of reality fall under its judgment and are relativised by it they have no absolute or final status in themselves and must not be allowed to usurp the legislative authority of reality for themselves. That is why all dogmatism is excluded. Quoted in Wigner & Hodgkin, 1977, p 433. Karl Barth makes a similar observation about theology.

3.2.2.2 Polanyi and Speech-Act Theory

Polanyi's deliberation, on the meaning of language utterances, have certain similarities to the speech-act theory of Austin and Searle. A Christian philosopher who takes his starting point in speech act theory is van Woudenberg. However, unlike Polanyi, van Woudenberg does not accept the conclusion that the vagueness of words (he limits this to certain words, and gives as examples the words poem, science and religion) necessarily leads to vagueness in the meaning of an utterance (van Woudenberg, 2002, 63-71). He gives the following reasons:

- Although definitions certainly do not eliminate all vagueness, definitions are possible that eliminate certain vaguenesses without introducing new ones.
- The context of an otherwise vague word – or with Wittgenstein, the language game in which it is used – may specify the meaning that the speaker has in mind. This second statement, however, is not really different from Polanyi's statement that the meaning of a speaker may be less vague than the meaning of the word he uses.

It is interesting to note that van Woudenberg's main concern in his critique of vagueness is the Law of Non-Contradiction, this great cornerstone of Christian apologetics since Carnell (Marsden, 1987,182). For if all words are in principle vague, this law needs to be either amended or eliminated. I am not sure that he has sufficiently proven that this does not need to happen – particularly in a pluralist society where people involve themselves in paradigmatically different language games.

3.2.3   Indwelling

An important notion in the philosophy of Polanyi is that of ***indwelling***, and of its reciprocal, ***breaking out***. Both are rooted in his concept of knowledge as a skill. According to Polanyi, the paradigm for subsidiary knowing is the way we make use of our body when we direct our attention to the world. When we listen to a piece of music, or carry out a scientific experiment, we constantly make use of our body, our

ears, eyes, and our hands. We experience the world outside through our body, we constantly rely on it as a tool for observing the world.

> '… in the act of *sensory perception*, we meet with the very paradigm of the structure which I have postulated for all kinds of knowledge at all levels. It is sensory perception, and particularly the way we see things, that have supplied Gestalt psychologists with material for their fundamental discoveries which I am expanding here into a new theory of knowledge. They have shown that our seeing is an act of comprehension for which we rely, in a most subtle manner, on clues from all over the field of vision as well as on clues inside our body, in the muscles controlling the motion of the eyes and in those controlling the posture of the body. All these clues become effective only if we keep concentrating our attention on the objects we are perceiving … but all of them can serve the purpose of seeing what is in front of us only if we make no attempt to look at them or attend to them in themselves' (Polanyi, 1961, 241).

We skillfully use our eyes, our hands, and our body to interact with the environment. We are able to do so by 'dwelling in' our body:

> '… we hardly ever observe our own body as we observe an external object, but we constantly rely on it as a tool for observing objects outside and for manipulating these for purposes of our own. Hence we may regard the knowing of something by attending to something else, as the kind of knowledge we have of our own body by living in it' (Polanyi, 1961, 241).

However, we are not born with the capacity to do so: we have, for instance to learn to see things by using our eyes. We have to 'learn to rely on our body for exercising intellectual and practical control over objects of our surroundings … Alternatively, we may describe the same process as an act of pouring ourselves into these things by relying on them' (Polanyi, 1961, 242). It is this aspect of knowing that modernity has failed to take account of. One of the major functions of this subsidiary awareness is to assimilate the bits of sensory information: 'We comprehend the particulars of a whole in terms of the whole by indwelling in the particulars; or, in other words, we

grasp the joint meaning of the particulars by dwelling in them' (Polanyi, 1961, 242). This can be nicely illustrated by looking at skill acquisition: a student usually learns by concentrating on the particulars of a skill, but only masters the skill when these particulars have become subsidiary and he focuses his attention on the entirety of the skill[65]. Another example of this is the recognition of a familiar face: the fact that we are only subsidiarily aware of the details of the familiar face is borne out by the fact that we could not possibly tell what those particulars are[66].

When we use a tool such as binoculars, or pliers, this tool becomes an extension of our eyes, and hands, respectively. And thus, we can say that we indwell such tools in the same way that we indwell our eyes and hands. The same can be said for conceptual systems such as languages or scientific paradigms: we indwell them, we interact with the world through them, we accept them uncritically, and are only tacitly aware of them.

> 'Hence when we get to know something as a clue, as a particular of a whole, as a tool, a word or as an element contributing to perception, by learning to rely on it, we do so in the same way as we learn to rely on our body for exercising intellectual and practical control over objects of our surrounding. So any extension of the area of reliance by which we enrich our subsidiary knowledge of things is an extension of the knowledge we usually have of our body; it is indeed an extension of our bodily existence to include things outside it. To acquire new subsidiary knowledge is to enlarge and modify our intellectual being by assimilating the things we learn to rely on. Alternatively,

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[65] As a surgeon one of the first operative skills I must teach a medical student is how to incise the skin of a patient. The trick here is to make in one sweep a clean cut into the fat tissue. There are a number of elements to this skill: the way the surgeon holds her knife, the force applied to the knife, the 'dare' to cut in one sweep. As long as the student concentrates on the elements of the skill one by one, she will not be able to make a clean and deep cut. It is only when she has internalized these elements and concentrates on the skill as a whole that she is able to make one.

[66] That a Gestalt integration plays an important role in recognition of familiar faces is recognized in modern cognitive psychology; see for instance Luchelli and Spinnler, 2007. They locate the Gestalt integration within the Person Identity Nodes (PINs), in the right fusiform gyrus in the temporal lobe. PINs receive unimodal information (ie, visual, auditory, gait, attire etc.) from Familiarity Recognition Units, also located in the temporal lobe. The provisional Gestalt recognition of the familiar person is next compared with Person Biographical Knowledge stored in the memory until the person is indeed identified with the familiar acquaintance.

we may describe the same process as an act of pouring ourselves into these things by relying on them … We comprehend the particulars of a whole in terms of the whole by dwelling in the particulars'' (Polanyi, 1961, 242).

Polanyi echoes here the famous metaphor of Calvin, where he talks about Scripture as the spectacles through which we see the world as God sees it[67].

As we have discussed, the most pregnant carriers of meaning are the words of our languages (Polanyi, 1964, 57)[68]. When we use language, however, we are only aware of the meaning of its words in a subsidiary manner. This is referred to as the transparency of language. Those who are at home in several languages may recognize this: sometimes, although they have understood the message that was communicated, they do not remember what language they just spoke or read. An intellectual tool, such as an intellectual framework, functions in much the same way (Polanyi, 1964, 59). When we accept a certain set of presuppositions[69] and use them as our interpretative framework (Polanyi thinks here primarily of a scientific paradigm) we may be said to dwell in them as in our own body[70]. These

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[67] Polanyi also comes very close to the idea of distributed cognition, as it was developed by the cognitive psychologist Andy Clark and others.

[68] The analogy of words with tools is also made by Wittgenstein (1992, I, 11). Anderson et al (1986, p 193) in their discussion of Wittgenstein's work remark, 'To ask what the use of a tool is, is to ask to be told or shown what can be done with it, to have identified the tasks in which it can be employed and so on … Of course, we want to use tools ourselves and we learn to do this by grasping techniques … it will often be enough to watch someone else employ the tool; watching what they do we can find out what the tool does and how we can make it do this ourselves. In order to learn to use the tool there is no need to 'grasp an idea'; but only to emulate other people's actions and, pushing the analogy through, learning 'the meaning' of a word is learning what can be done with it, mastering the techniques for its deployment. Hence, 'let the use of words teach you their meaning' (Wittgenstein, 1992, p 220).
An interesting study which explores the primacy of perceptual Gestalts in theory formation is Roth, 2004

[69] TS Kuhn points out that this does not necessarily, and in practice only rarely, involve the acceptance of a series of interpretations and rationalizations of the paradigm, but rather the acceptance of 'exemplars', a number of model problems and problem solutions, which are identified by the particular scientific community as authoritative. Kuhn mentions in this context Polanyi, indicating that he was aware of the latter's work (Kuhn 1996, p 44, 191). What results from learning through exemplars is 'tacit knowledge'. Acquired through doing science rather than by acquiring rules for doing it. The similarity with skill acquisition is clear. This is more in line with contemporary cognitive scientific thinking than Kuhn's earlier definition of a paradigm. See also Sternberg 2002, p 359ff.

[70] TS Kuhn even remarks that 'something like a paradigm is prerequisite to perception itself', and continues, 'What a man sees depends upon what he looks at and also upon what his previous visual conceptual experiences has taught him to see (Kuhn 1996, 113). This of course, is again the Sapir-

presuppositions are and can only be accepted uncritically, because criticism can only be done from within an interpretative framework. Like a tool, a sign or a symbol can be conceived as such only in the eyes of a person who relies on them to achieve or to signify something. '*This reliance is a personal commitment which is involved in all such acts of intelligence by which we integrate some things subsidiary to the centre of our attention*' (Polanyi, 1961, 61, italics Polanyi)[71].

That this is a personal commitment is borne out by the fact that acts of intelligence, like skilful acts, are purposeful. Purposeful acts carry the risk that they may fail. All such acts therefore commit their agent to certain risks. 'Purposeful forms of behaviour are a string of irrevocable and uncertain commitments.'[72]

Polanyi uses as his paradigm case for acquiring knowledge scientific discovery. In a scientific discovery a new fact, a new explanation is brought forth, one that the reigning conceptual system did not cater for. The very idea of a discovery is that those who remain to indwell in the reigning conceptual system will never make it, and often will not accept it once the discovery has been made. The discoverer needs to break out of the conceptual system and come to indwell another one. How this happens, Polanyi describes in a detailed analysis of scientific discovery. This will be the topic of the next chapter.

Whorf hypothesis, but Pendlebury (1996) points out that it was already anticipated in Kant's view on the role of imagination in perception.

[71] Important are also the remarks that Polanyi makes about perception (1961, p 241): Last, deep down, in the most primitive forms of knowing, in the act of sensory perception, we meet with the very paradigm of the structure which I have postulated for all kinds of knowledge at all levels. It is sensory perception, and particularly the way we see things, that has supplied Gestalt psychologists with material for their fundamental discoveries which I am expanding here into a new theory of knowledge. They have shown that our seeing is an act of comprehension for which we rely, in a most subtle manner, on clues from all over the field of vision as well as on clues inside our body, in the muscles controlling the motion of the eyes and in those controlling the posture of our body. All these clues become effective only if we keep concentrating our attention on the objects we are perceiving. Many of the clues of perception cannot be known in themselves at all; others can be traced only by scientific analysis; but all of them can serve the purpose of seeing what is in front of us only if we make no attempt at looking at them or attend to them in ourselves. They must be left to abide in the role of unspecifiable particulars of the spectacle perceived by our eyes if we are to see anything at all.'

[72] Another Hungarian, the priest-philosopher Jarki, makes a similar point when he remarks that those philosophers, who question the reality of objects, can however not deny the reality of the means by which they convey their message, such as books. Jarki, 1999, chapter 1.

Chapter 4

Polanyi on Science

Abstract:

This chapter reinforces, by the example of science, Polanyi's idea that all knowledge involves acts of 'subjective commitment'. In the context of scientific discovery Polanyi argues that early scientists, like Copernicus and Galileo, were not satisfied to have described a new computing device, but maintained that they had described reality. They held their convictions with 'universal intent'. Polanyi argues (4.1) that scientists, while uncritically indwelling their traditions, can make such claims to describe the true state of affairs, because of their personal act of commitment to their findings, their subjection to the critique of their peers, and because of their expectations that their findings open up avenues for new discoveries. Polanyi's work has had a significant influence on the work of Imri Lakatos, whose theory of research programmes will be discussed as a development of Polanyi's thoughts (4.2). The final section of this chapter (4.3), describes how Polanyi overcomes the dichotomy between fact and value by pointing out that scientific discoveries are purposeful acts and as such involve commitment and meaning.

4.1   An Analysis of Scientific Discovery

For Polanyi the distinctive feature of all personal knowledge is that it is something that is actively shaped, while at the same time its results are accepted as a token of reality (Polanyi, 1964, 132, Polanyi, 1961, 243). This also applies to scientific theory[73]. This problem was first formulated by Plato in the *Meno*, 80. The solution

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[73] Kuhn distinguishes between two types of scientific discoveries. The second class of discoveries (he quotes as examples those of the neutrino, radio-waves and the elements which filled the empty places in the period table) were predicted from theory before they were discovered, and those who discovered them knew beforehand what to look for. However, the first class (such as oxygen, the

that Plato gave was that we do actually know the answer to the problem, because we remember it from a previous life. This solution was thus tied in with his belief in reincarnation. Polanyi, however, suggested another option. Mead (2007, 305) observes that 'Polanyi's more elaborate theory of the tacit workings of our minds' provides 'a more satisfying resolution of the *Meno* problem, and one that we can easily relate to in our everyday experience'

Polanyi points out that the great conflict between the followers of Copernicus and the Roman Church of their time, which culminated in the persecution of Galileo revolved around the question whether the heliocentric system was a real image of the sun with the planets circling around it as Galileo believed, or whether it was – as the Church of the time interpreted it – no more than a 'novel computing device' (Polanyi, 1967, 177)[74].

Polanyi demonstrates this twofold nature of scientific knowledge as both actively shaped and reaching out to reality in his description of intellectual passions. Such passions are no mere psychological by-products of a detached science, but contribute an indispensible element to it (Polanyi 1964, 134). He distinguishes the following intellectual passions:

4.1.1   Selective Passion

The first function of intellectual passions is to distinguish between facts that are of scientific interest and those that are not. But what are these significant facts? Or, in other words, what is a good problem? And how do you know what a good problem

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electrical current, X-rays or the electron) was not predicted from accepted theory in advance, and therefore caught the assembled profession by surprise (Kuhn 1977, 166). It is this first type of scientific discovery to which Polanyi's theory most profoundly applies. While the first type of scientific discovery demonstrates the personal and fiduciary element in scientific discovery, it is the second type of discovery – result of the predictive function of scientific theory – that affirms the truth of such a theory. Polanyi, however, does not make such a distinction. For him every discovery involves a heuristic jump.

[74] In 1951, 22, Polanyi suggests that we must distinguish between personal preferences – such as the love for one's wife and children – and scientific beliefs, which are held with a claim to universal validity and thus possess normative character. Embracing a belief of the latter kind means accepting a commitment. Beliefs can thus only be said to be sincere or insincere.

is? Are you looking for what you know (but then there is no problem) or for what you don't know (but then how do you know what to look for)? The answer seems to be that to recognize a problem is to sense, by a kind of intuition, that there is something to be discovered which has not fully revealed itself but of which there are hints:

> '… a good problem, is to surmise the presence of something hidden, and yet possibly accessible, lying in a certain direction. Problems are evoked in the imagination by circumstances suspected to be clues to something hidden; and when the problem is solved, these clues are seen to form part of that which is discovered, or at least to be proper antecedents of it. Thus the clues to a problem anticipate aspects of future discovery and guide the questing mind to make the discovery (Polanyi 1967, 188)[75].

This intellectual passion depends ultimately on a sense of intellectual beauty (Polanyi, 1964, 135)[76]. The intellectual beauty of a theory is a token of its contact with reality. Polanyi:

> 'Scientific discovery reveals new knowledge, but the new vision which accompanies it is not knowledge. It is *less* than knowledge, for it is a guess; but it is *more* than knowledge, for it is a foreknowing of things yet unknown and at present inconceivable (Polanyi, 1964, 135).[77]'

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[75] Einstein: 'The supreme task of the physicist is the search for those highly universal laws from which a picture of the world can be obtained by pure deduction. There is no logical path leading to these laws. They are only to be reached by intuition, based upon something like an intellectual love.' Or, 'the mechanisms of discovery are neither logical nor intellectual. It is a sudden illumination, almost a rapture. Later, to be sure, intelligence and analysis and experiment confirm (or invalidate) the intuition. But initially there is a great leap of imagination. Quoted in Newbigin, 1989, p 10. See also Jarki, 1999, p 45

[76] Kuhn, however, feels that arguments based on the aesthetic value of a new paradigm play a more important role in mathematics than in the sciences. 'The earlier versions of most paradigms are crude. By the time their full aesthetic appeal can be developed, most of the community has been persuaded by other means. Nevertheless, the importance of aesthetic considerations can sometimes be decisive. Though they often attract only a few scientists to a new theory, it is upon those few that its ultimate triumph may depend. If they had not quickly taken it up for highly individual reasons, the new candidate for paradigm might never have been sufficiently developed to attract the allegiance of the scientific community as a whole' (Kuhn, 1996, 156). I believe, however, that Polanyi uses intellectual beauty in another sense here, ie, to what Einstein refers as 'almost rapture'

[77] Joan Crewdson argues that the dynamism in scientific discovery '… is due in part to the deliberate effort or thrust of the imagination searching for clues, in part to the spontaneous activity of intuition which integrates what imagination has hit upon, and in part to the inexhaustible nature of the hidden

Scientific value is the outcome of three contributing factors: an affirmation will be more acceptable to science if it has certainty (accuracy), systematic relevance (profundity), but also intrinsic interest[78]. The first two criteria are intrinsic to science, the third one, however, is extra-scientific. These criteria can to some extent compensate for each other: the evolution theory, for instance, is firmly anchored and highly regarded by scientists, even though there is little direct evidence for it, because it beautifully fits a mechanistic interpretation of the universe, and has bearing on a subject – the origin of man – which is of the utmost intrinsic interest (Polanyi 1964, 136. See also Newbigin 1989, 30). Often the subjects that are of the highest intrinsic interest do not lend themselves well to accurate observation and systematic study.

Intellectual passion, this sense for intellectual beauty, suggests what questions are reasonable and interesting to explore, it recommends what is plausible – even when some evidence seems to reject it – and what empirical connections to reject – even though there is evidence to support them. It is the normal practice of the scientist to ignore evidence that appears incompatible with the accepted system of scientific knowledge. On the other hand, very little inherent certainty is required to secure the

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reality. Polanyi's analysis shows imagination serving the questing mind much as a blind man's stick probes the environment, searching for new coherence and guided by intuition towards a possible solution.' Quoted in Barrett, 2000, 139. John Macquarrie speaks in this context of 'architectonic reasoning'. Barrett 2000, 139-140

[78] Quine talks about the six virtues of a good hypothesis, respectively (Quine and Ulian, 42 and 65):

1. Conservatism – the requirement that a new hypothesis must conflict with as few already accepted beliefs as possible
2. Generality – the hypothesis must apply to as wide a range of phenomena as possible
3. Simplicity – in general we tend to accept the hypothesis that – all other things being equal – explains the phenomena in the most simple terms. However, the definition of simplicity, and why precisely it should be a virtue of hypotheses remains controversial
4. Refutability – a hypothesis must be stated in such terms, that it is in principle possible to falsify the hypothesis
5. Modesty – the hypothesis must be as simple as possible
6. Precision – the more precise a hypothesis, the more likely it is confirmed by later observations.

However, what Quine has failed to take into account is what Polanyi refers to as the personal element of a hypothesis, the 'intrinsic interest', the passion that causes the scientist to formulate this hypothesis, and not any other.

highest scientific value to an alleged fact, if only it fits in with a great scientific generalization (Polanyi, 1964, 138)[79].

In 1967, Polanyi would stress an important element of his theory[80], by observing that a good problem is often given by reliance on the reality of a scientific theory. Keppler's conviction that the Copernican system was real 'was expressed in his beliefs that its image anticipated aspects of something hidden and possibly accessible by an enquiry in a certain direction' (Polanyi, 1967, 188), and he confirmed these anticipations when he discovered his three laws. Likewise, Newton, relying on the reality of Copernicus' and Keppler's findings was confirmed by finding the hidden laws of gravity. Keppler's and Newton's belief in the heliocentric system's reality 'was an act of their imagination that spurred and guided them to discovery' (Polanyi 1967, 189).

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[79] This statement must of course be read in conjunction with the earlier statement that a scientist cannot be agnostic about any claim regarding his field of interest. What normally happens is that the scientist explains the fact that contradicts his paradigm, for instance, as a wrong result, e.g., due to a faulty experimental set-up.
[80] In fact, he already made the point in the introductory chapters of *Personal Knowledge*

4.1.2 Heuristic impulse[81]

The second intellectual passion, the heuristic impulse, links our appreciation of scientific value to a vision of reality, which serves as a guide to enquiry. Polanyi rightly points out that great scientific discoveries are often made after a year-long search, with no guarantee of success[82]. An objectivist's view of science cannot explain why Keppler gave sixteen of 'the best years of my life' for what might have turned out to be a wild-goose chase. With the term 'heuristic function of the intellectual passion', Polanyi refers to this passion, which can evoke an intimation of scientific discoveries, and sustain their persistent pursuit over years. Creative scientists 'spend their lives in trying to guess right (Polanyi, 1964, 143). But once the discovery has been made, it changes the world as we see it, by deepening our understanding of it (See also Kuhn 1977, 175)[83]. This process is irreversible as soon

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[81] In cognitive science a heuristic is a mental shortcut, used in solving problems. Whereas a computer solves problems by evaluating all the possible solutions and selects the best sequence of steps to take to solve the problem, human memory can only consider a few possible operations at the time. It therefore has to rely on short-cuts, heuristics (Sternberg, 2002, 167). Such shortcuts may, as Kuhn suggests, be based on paradigmatic problem-solution conservations. A heuristic jump may then be understood as coming up with a new way of solving a problem, and thereby creating a new shortcut.
A mental set is defined as a frame of mind involving a convention of presenting a problem, a problem context and a procedure for solving the problem. Mental sets may be one of three varieties:
- Entrenchments: a fixation on a strategy that normally works well in solving many problems, but not with this particular problem.
- Functional fixedness: the inability to realize that something known to have a particular use may also be used for performing other functions.
- Stereotypes: beliefs that members of a social group tend more or less uniformly to have particular types of characteristics. Stereotypes are formed by a process of induction, ie, a generalization from a limited amount of incidences.
See Sternberg, 2002, 379-386.
[82] A favourite example with Polanyi is Keppler's ecstatic statement after his discovery of the elliptical path of the planets: 'What I prophesied two-and-twenty years ago, as soon as I discovered the five solids among the heavenly orbits – what I firmly believed long before I had seen Ptolemy's Harmonics – what I had promised my friends in the title of this fifth book, which I named before I was sure of my discovery – what sixteen years ago I urged to be sought – that for which I have devoted the best part of my life to astronomical contemplations, for which I joined Tycho Brahe … at last I have brought it to light, and recognized its truth beyond all my hopes … So now since eighteen months ago the dawn, three months ago the proper light of day, and indeed a few days ago the pure Sun itself of the most marvellous contemplation has shown forth – nothing holds me; I will indulge my sacred fury; I will taunt mankind with the candid confession that I have stolen the golden case of the Egyptians, in order to build of them a tabernacle to my God, far indeed from the bounds of Egypt. If you forgive me, I shall rejoice; if you agree, I shall bear it; the die is cast, the book is written, whether to be read now or by posterity I care not; it may wait a hundred years for its reader, if God Himself has waited six thousand years for man to contemplate His work.' Quoted in Polanyi, 1964, 143.
[83] Cognitive science distinguishes between routine versus insight problem solving. In routine problem solving the problem is well defined, as is its solution. When a problem is ill-structured, the solution is

as the gap is crossed between the problem and its solution. Polanyi refers to this gap as the heuristic gap. Major discoveries change our interpretative framework. Hence it is impossible to arrive at them by continued application within our current interpretative framework[84]. Therefore, to cherish a heuristic passion is risky, as the example of Keppler shows.

The truth of a scientific statement lies in its achievement of forging a contact with reality which reveals itself by opening up an indefinite range of yet unforeseen consequences. We refer to this as the predictive value of a scientific theory[85]. However, the truth-concept of a theory cannot be identified with its fruitfulness, unless the term 'fruitful' is itself redefined in terms of truth – such as, eg, the fruitfulness of a theory to lead to new truths. A theory is fruitful, because it is true. To use fruitfulness as a criterion for truth is nonsensical, as it 'implies the manifestly absurd suggestion that fruitfulness is a more concrete and limited quality which could be ascertained without going all the way to establish truth' (Polanyi 1964, 147). Therefore the positing of the truth of a scientific theory in its intellectual beauty does not do away with the need for experimental research. Experience is an indispensible clue to the understanding of nature, although it does not determine this understanding. Understanding is a 'groping for the meaning of facts'. Polanyi continues to say:

> 'In this empirical guidance of our groping lies all the difference – elusive and yet utterly decisive – between a merely formal advance and a new insight

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not obvious, and requires 'insight' – the ability to see the problem in a new light. John Gibbin maintains that even Francis Bacon recognizes that new discoveries depend on 'a leap of the imagination, a flash of insight, or a stroke of genius'. See Gibbin, 2006, 79.

[84] C.f. also TS Kuhn: 'Paradigms are not correctable by normal science at all. Instead … normal science ultimately leads only to the recognition of anomalies and to crises. And these are terminated, not by deliberation and interpretation, but by a relatively sudden and unstructured event like a Gestalt switch. Scientists often speak of the 'scales falling from their eyes', or of the 'lightning flash', that 'inundates' a previously obscure puzzle, enabling its components to be seen in a new way that for the first time permits its solution' (Kuhn, 1996, 122).

[85] Polanyi said in 1961: 'Life knowledge is a perpetual source of new surmises, an inexhaustible mine of still hidden implications. The death of Max von Laue last year should remind us that his discovery of the diffraction of x-rays by crystals was universally acclaimed as an amazing confirmation of the existence of crystals and x-rays. In a like manner, Dalton's atomic theory was an amazing confirmation of Boyle's speculation on the structure of crystals, which itself was a development of ideas originating with Lucretius and Epicurus. And Dalton's theory was amazingly confirmed in turn by the experiments of JJ Thompson ninety years later.' Polanyi, 1961, 244

into the nature of things. Whence this elusiveness? It is a reflection on the canvas of the highest scientific achievement of the fact that we can never tell exactly what we mean, or even if we mean anything at all. Indeterminacy of meaning is not eliminated, but only restricted, when we eventually decide to accept a theory as a true statement of something new about nature. For, while we heavily commit ourselves thereby to a belief concerning certain things, such a belief can have no bearing on reality unless its scope is still left indeterminate' (Polanyi, 1964, 150).

Polanyi maintained that heuristic passions were not only at work at the beginning of modern science, but also in the scientific advances in his own times, such as in the discovery of specific relativity by Einstein. Rather than being an attempt to solve the riddle of the Michelson-Morley experiment[86] as the popular textbook version maintained, Einstein had already conceived of the idea that the velocity of light was absolute at the age of 16[87]. Einstein, Polanyi concluded, had come to his theory 'on the basis of pure speculation, rationally intuited' (Polanyi 1964, 10), before he had even heard of the Michelson-Morley experiment.

4.1.3 Persuasive Passions

Heuristic passion seeks no personal possession of its discoveries. It seeks to enrich the world and asks that its gift be accepted by all[88]. From our heuristic passion a

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[86] Which demonstrated that the speed of light measured by a terrestrial observer is the same, no matter in which direction the signal was sent out

[87] He wrote in his autobiography (quoted in Polanyi, 1957, 10), '... after ten year's reflection ... from a paradox which I had already hit at at the age of sixteen: If I pursue a beam of light with the velocity *c* (velocity of light in a vacuum), I should observe such a beam of light as a spatially oscillatory electromagnetic field at rest. However, there seems to be no such a thing ...' What Einstein refers to here is that for an electrical field to induce a magnetic field and vice versa, both have to be in motion. See also White and Gribbin, 2005, 94

[88] Jha, 1997, 627, summarizes that a scientist guards against 'deceptive beauty', ie, theories that are attractive scientific theories, but do not reach out to reality, by at least three ways:
- The appreciation of scientific values, which are accuracy of scientific observation and systematic relevance indicated by reproducibility or predictable events.
- Adherence to the premises of science: scientific knowledge reveals new knowledge grounded in the premises of science.
- Upholding the standards of criticism of the scientific community

persuasive passion grows. However, its universal intent creates conflict, for a heuristic gap is faced. The discoverer, who committed himself to the new vision of reality, has therefore separated himself from those who still think along the old lines. The persuasive passion is thus nothing less but a mission to convert. What happens next can best be expressed in Polanyi's own words:

> 'Take, for example, four contemporary issues: Freud's psycho-analysis, Eddington's *a priori* system of physics, Rhine's Reach of the Mind, and Lysenko's environmental genetics. Each of the four authors mentioned here has his own conceptual framework, by which he identifies his facts and within which he conducts his arguments, and each expresses his conceptions in his own terminology. Any such framework is relatively stable, for it can account for most of the evidence which it accepts as well established, and is sufficiently coherent in itself to justify, to the satisfaction of its followers, the neglect for the time being of facts, or alleged facts, which it cannot interpret. It is correspondingly segregated from any knowledge or alleged knowledge rooted in different conceptions of experience. The two conflicting systems are separated by a logical gap, in the same sense as a problem is separated from the discovery which solves the problem. Formal operations relying on *one* framework of interpretation cannot demonstrate a proposition to persons who rely an *another* framework. Its advocates may not even succeed in getting a hearing from these, since they must first teach them a new language, and no-one can learn a new language unless he first trusts that it means something. A hostile audience may in fact deliberately refuse to entertain novel conceptions such as those of Freud, Eddington, Rhine or Lysenko, precisely because its members fear that once they have accepted this framework they will be led to conclusions which they – rightly or wrongly – abhor. Proponents of a new system can convince their audience only by first winning their intellectual sympathy for a doctrine they have not yet grasped. Those who listen sympathetically will discover for themselves what they would otherwise never have understood. Such an acceptance is a heuristic process, a self-modifying act, and to this extent a conversion. It

produces disciples forming a school, the members of which are separated for the time being by a logical gap from those outside it. They think differently, speak a different language, live in a different world, and at least one of the two schools is excluded to this extent for the time being from the community of science.

We can now see, also, the great difficulty that may arise in the attempt to persuade others to accept a new idea in science. We have seen that to the extent to which it represents a new way of reasoning, we cannot convince others of it by formal argument, for so long as we argue within their framework, we can never induce them to abandon it. Demonstration must be supplemented, therefore, by forms of persuasion which can induce a conversion. The refusal to enter on the opponent's way of arguing must be justified by making it appear altogether unreasonable.

Such comprehensive rejection cannot fail to discredit the opponent. He will be made to appear as thoroughly deluded, which in the heat of the battle will easily come to imply that he was a fool, a crank or a fraud. And once we are out to establish such charges we shall readily go on to expose our opponent … In a clash of intellectual passions each side must inevitably attack the opponent's person' (Polanyi, 1964, 151-152)[89].

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[89] In fact, as Max Planck once remarked, 'a new scientific truth does not triumph by convincing its opponents and making them see the light, but because its opponents eventually die, and a new generation grows up that is familiar with it (Quoted in Kuhn, 1996, 151).

Anderson et al, in their discussion of Feyerabend, make the following remark on incommensurability (and this is what Polanyi is talking about here) and the Quinean term radical translation; 'Both of these had their origin in what Quine calls 'undetermination of theory by the facts'. The theory, the web of propositions for a language, the paradigm, can be adjusted to accommodate what are apparent counterfactuals. The difficulty which radical translation and incommensurability gives us is how to express the concepts of one theory or paradigm in terms of another *and preserve truth*. The solution which both Quine and Kuhn offer us is one which Quine calls 'semantic assent'. One cannot fix the continuity of properties of objects between theories, but one can fix the continuity of the truth of propositions. This can be done, because the unit of meaning, and hence of truth for Quine, is the whole language. What we are offered, therefore, is the notion of a proposition 'being true in language' or 'true in a conceptual framework'. To take Kuhn's famous case, the propositions of phlogiston as they were described in pre-Lavoisier chemistry are not translatable, one for one, into properties of oxygen in post-Lavoisier chemistry. In this sense the theories are incommensurable. But the *truth* of statements of propositions made about phlogiston in pre-Lavoisier chemistry is

Science went through three stages, three mega-paradigms:

- The oldest paradigm was when the universe was seen as a harmonious whole of numbers and geometrical figures (Pythagoras)

- The modern paradigm was of a mechanical universe of matter in motion (Newton)

- The twentieth-century paradigm is of a system of mathematical invariances (Einstein)

However, what then about the claim that science proceeds from a number of specifiable presuppositions, a number of premises regarding correct procedures and beliefs about the nature of things? It must be clear now that Polanyi rejects this view (Polanyi, 1964, 160ff). The term premise refers to a logical category denoting an affirmation, which is logically anterior to that of which it is the premise. However, when a scientist sets on a path towards a new discovery, he cannot be aware of the premises of the new interpretative system to which it will lead: he is still separated by the heuristic gap. The logical premises of factuality are not known to him, or believed by him, before he starts establishing the facts. The premises can only be recognized, only be known focally, if he subsequently reflects on the way he has established his facts. This leads to the conclusion that the actual premises of science at the moment are present only in the yet unformed discoveries maturing in the minds of scientific investigators; we can get no closer to the current premises of science (Polanyi 1964, 165).

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commensurable with the *truth* of propositions about oxygen in post-Lavoisier chemistry (Anderson et al, 1986, 261).

Patel et al, 1995, 421-3, give an interesting contemporary example. They describe the emergence of the distributed cognition model of knowledge, and set this over the reigning paradigm of symbolic information processing model, and argue that researchers have taken one of four positions. The first two of these are attempts to accommodate the new model within the old, either by declaring it a purely epistemological and metascientific concern and thus not of relevance for the practice of science (position 1), or by incorporating the results of research by the distributed cognitivist within the reigning paradigm. The third position is that of the adherents of the new paradigm who maintain that the entire science needs to be overhauled. The fourth option – both/and - is characteristic for the social sciences, where often no paradigm can become the reigning paradigm like in the natural sciences.

4.1.4 Conviviality

Polanyi summarizes his ideas as follows: The premises or beliefs of science 'are embodied in a tradition, the tradition of science.' Science is only possible because 'there exists a group of people (customarily described as scientists) who are agreed in accepting one tradition, and they trust each other to be informed by that tradition.' Without this community the 'whole idiom of science in which its interpretative framework is expressed would lose its character of a living and authoritative language' (Polanyi, 1951, 53ff). But even this community would not have the authority it enjoys, were it not that its claims are accepted by large groups of the public as a valid and authoritative description of reality.

The growth of scientific knowledge, therefore, occurs in three stages:

o In the first stage, the 'individual scientists take the initiative in choosing the problems and conducting their investigations'

o In the second stage, 'the body of scientists controls each of its members by imposing the standards of science'

o In the third stage 'the people decide in public discussion whether to accept science as the true explanation of nature' (Polanyi, 1951, 58).

The second stage refers to the control that the scientific community exercises on its members. This is effected by a number of methods:

o By control of publication. Any research submitted for publication requires the preliminary approval of two or three independent referees, normally of the choice of the editor of the journal. They judge the research particularly on two points: whether the claims of the paper are well substantiated, and whether it possesses sufficient scientific interest to be worth publishing.

o By control of academic appointments, advice on research subsidies and awarding distinction. These serve to encourage lines of research which those who serve in such advisory positions consider promising, and to discourage those lines of which they have a poor opinion. It should be observed that these scientists, the

'chief influentials' (Polanyi, 1951. 54), are often the same as those who control publications.

o By transmitting the standards of science to the next generation of scientists. Polanyi makes the interesting observation that countries that have no scientific tradition (he mentions pre-war New Zealand, Australia, South Africa etc), often fail to found important schools of research:

> 'However rich the fund of local genius may have been, such environments will fail to bring it to fruition. In the early phase in question, New Zealand loses its Rutherford, Australia its Alexander and its Bragg, and such losses retard further the growth of science in a new country. Rarely, if ever, was the final acclimatization of science outside Europe achieved, until the government of a country succeeded in inducing a few scientists from some traditional centre to settle down in their territory and develop there a new home for scientific life, moulded on their own traditional standards. This demonstrates perhaps most vividly the fact that science as a whole is based – in the same way as the practice of any single research school – on a local tradition, consisting of a fund of intuitive approaches and emotional values, which can be transmitted from one generation to the other only through the medium of personal collaboration (Polanyi, 1951, 56-57) .

Modern science rests on 'the passionately sustained efforts of succeeding generations of great men, who overwhelmed the whole of modern humanity by the power of their convictions' (Polanyi 1964, 171). This is how our scientific outlook has been moulded, and of which the logical rules of science give a 'highly attenuated summary'. We accept this summary, because science appears in our society as a vast system of beliefs, deeply rooted in our history and cultivated today by a specially organized part of our society. Science is a system of beliefs to which we are

committed[90]. This observation leads to the necessity of seeking for a fiduciary formulation of science.

Watson (2001, 472) observes that Polanyi, particularly in his 1946 Riddell lectures at the university of Durham (published as *Science, Faith and Society),* sees strong links between the development of science and Christianity. First, he noted that some of the founders of the Christian Church, such as St Augustine, had a strong interest in science. Secondly, Christianity gave its followers the notion of transcendental truth, truth that is 'out there' and waiting to be found. Watson summarizes:

> 'Polanyi saw the tradition of science, the search for objective, transcendent truth, as at base a Christian idea, though of course much developed – evolved – beyond the times when there was only revealed religion. The development of science, and the scientific method, he felt, had had an effect on toleration in society, and on freedom, every bit as important as its actual findings. In fact, Polanyi saw an eventual return to God; for him, the development of science, and the scientific way of thinking and working, was merely the latest stage in fulfilling God's purpose, as man makes moral progress. The fact that scientists operate so much from intuition and according to their consciences only underlines this point.'

4.2   Polanyi and Lakatos

Although Lakatos is generally considered as 'a Popperian who adapted his Hegelian-Marxist training to critical philosophy', Jha (2006, 213) has recently convincingly argued that Lakatos, a pupil of Popper, became increasingly critical of the latter's

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[90] One can detect here the influence of WVO Quine. Anderson et al summarize Quine's thoughts as follows: 'The word 'posit' is aptly chosen because we are talking about the kind of things our theories postulate rather than those they discover. From a point of view *external* to both, there is no difference between our scientific theories with their atoms, forces, etc, and the religious theories of the ancient Greeks with their gods. The latter are no more or less real than the former. However, we do not look at theories from outside, we look at things *through* theories within the background of one theory or another … there is, therefore, no reason why relativism should weaken our attachment to scientific theory since, although we can see that there could be alternative theories and ontologies, we judge their adequacy from the point of view of *our* own theory, science.' Anderson et al, 1986, 140

'logic of scientific discovery', and used concepts of Kuhn, Polya, but in particular Polanyi to formulate a new theory of scientific discovery. Lakatos, who wrote a dissertation on Polya, was throughout his working life in correspondence with both Kuhn and Polanyi, and increasingly started using Polanyi's terminology in his writings. His theory of scientific research programmes shows many influences of Polanyi, and it is probably more through Lakatos than through Polanyi's own writings that the latter is most influential today.

In short, Lakatos maintains that scientists commit themselves to research programmes. He summarizes as follows:

> 'The basic unit of appraisal must be not an isolated theory or conjunction of theories but rather a '*research programme*', with a conventionally accepted (and thus by provisional decision 'irrefutable') *hard core*' and with a *'positive heuristic'* which defines problems, outlines the construction of a belt of auxiliary hypotheses, foresees anomalies and turns them victoriously into examples, all according to a preconceived plan. The scientist lists anomalies, but as long as his research programme sustains its momentum, he may freely put them aside. *It is primarily the positive heuristic of his programme, not the anomalies, which dictate the choice of his problems.* Only when the driving force of the positive heuristic weakens, may more attention be given to anomalies' (Lakatos, 1970a, 99).

One can see why this is a direct refutation of Popper's programme of falsification: An anomaly is a falsification of a research programme, but it will usually not lead to abandoning the programme, and neither should it, for it is always possible that in the future an explanation will be found within the research programme. In fact most research programmes encounter many anomalies in their early stages, many of which are later solved within the heuristic structure of the programme. A Popperian programme of falsification would thus stifle most scientific research. This does not imply that Lakatos claims that anomalies should be ignored by scientists. Anomalies 'must be recorded and publicly displayed' (Lakatos, 1970a, 101). Yet,

'Anomalies, like an odd-shaped tree at the seaside, or a serpent seen in a dream, may provide psychological stimulus for progress' (Lakatos, 1970b, 174).

Rather, what determines whether a research programme is progressing or not, ie, whether 'its theoretical growth anticipates its empirical growth, that is, as long as it keeps predicting novel facts with some success' (Lakatos, 1970a, 100)[91]. Lakatos refers to this as a progressive problem shift. On the other hand, a research programme is stagnating if it only gives post-hoc explanations of facts anticipated by, and discovered by another research programme[92]. Evolution theory is a good example of a research programme with a progressive problem shift[93], while young-earth creationism has a degenerating problem shift. The fact that, although this has been true for creationism throughout the last century, it is probably more popular than ever, illustrates that we have to account for external factors in the choice of research programmes. However, whether a research programme is successful as science, ie, whether it reaches out to reality, is determined not by such external factors but by its success in anticipating new discoveries.

Lakatos stresses repeatedly that what he has developed is not a normative account of scientific progress, but a description of how science progresses. He therefore, for instance, points out that when a research programme stagnates, this is not a reason for scientists to abandon it (although very soon those who stick to a degenerating programme can only do so in private, as 'editors of scientific journals should refuse to publish their papers which will, in general, contain either solemn reassertions of their position or absorption of counterevidence ... by *ad hoc,* linguistic adjustments' -

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[91] This implies that research programmes can only be assessed *post hoc*. The experiment that turned out to crucially refute the research programme (that falsified one of its core theories) can only be identified after the problem shift has occurred – see Anderson, Hughes and Sharrock, 254.
[92] Lakatos, 1970a, in a footnote (36) adds, 'I define a research programme as degenerating even if it anticipates novel facts but does so in a patched-up development rather than a coherent, pre-planned positive heuristic. I distinguish three types of *ad hoc* auxiliary hypotheses: those which have no excess empirical content over their predecessor (*'ad hoc$_1$'*), those who do have such excess content but none of it is corroborated (*'ad hoc$_2$'*), and finally those which are not *ad hoc* in these two senses but do not form an integral part of the positive heuristic (*'ad hoc$_3$'*).' He remarks 'Some of the cancerous growth in contemporary social 'sciences' consists of a cobweb of such *ad hoc$_3$* hypotheses'.
[93] Although this has recently been contested by the Intelligent Design movement, see Woodward, 2003

Lakatos, 1970b, 105). However, degenerative research programmes 'can always stage a comeback', and this 'would be impossible if no scientist 'worked' on the programme' (Lakatos, 1970b, 174).

A second point that Lakatos makes regarding research programmes is that they are 'instruments':

> 'In my view all hard cores of scientific programmes are likely to be false and therefore serve only as powerful imaginative devices to increase our knowledge of the universe. This brand of instrumentalism is, however, consistent with realism and I hold that the succession of progressive research programmes constantly superseding each other, is likely to produce theories with ever increasing verisimilitude' (Lakatos, 1970b, 175).

Lakatos disagrees with Polanyi's and Kuhn's incommensurability principle, and maintains that the rivalry between two competing research programmes can be 'a protracted process during which it is rational to work in either (*or, if one can, in both*).' This may, for instance happen when one of the research programmes is vague, and one of its opponents may want to work in it, in order to 'develop it in a sharper form in order to show up its weakness' (Lakatos, 1970a, footnote 37. See also Anderson, Hughes and Sharrock, 1986, 254).

4.3 Overcoming the Fact-Value Dichotomy

4.3.1 Commitment

Any enquiry into our ultimate beliefs, according to Polanyi, can only be consistent if it presupposes its own conclusion. It must be intentionally circular[94]. His entire

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[94] This however, is true for any theory, be it a scientific or a metaphysical one. C.F the following quote from Kuhn: 'Like the choice between competing political institutions, the choice between competing paradigms proves to be a choice between incompatible modes of community life. Because it has that character, the choice is not and cannot be determined by the evaluative procedures characteristic of normal science, for these depend in part upon a particular paradigm, and that paradigm is at issue. When paradigms enter, as they must, into a debate about paradigm choice, their role is necessarily circular. Each group uses its own paradigm to argue in that paradigm's defence.

argument is 'but an elaboration of this circle, it is a systematic course in teaching myself to hold my own beliefs' (Polanyi, 1964, 299). However, as soon as this programme is formulated, it tends to 'sink into subjectivism'. This self-destruction can, however, be avoided by modifying our conception of belief. Consider the proposition 'p is true', which stands for 'p is true if and only if I believe that p is true' However, this should now be supplemented in order to keep the proposition linked to its other pole, to the things to which it refers. This Polanyi achieves by merging the fiduciary mode of speaking within the wider framework of commitment. The personal participation of the knower in the knowledge he believes himself to possess, takes place within a flow of passion, of love of the truth. Commitment is neither objective nor subjective, but 'transcends the disjunction between subjective and objective' (Polanyi, 1964, 300)[95].

For instance, the distinctive ability of a researcher lies in his capacity to embark on lines of enquiry that others have not even thought about. This is his originality, a distinctively personal initiative and therefore always passionate, guided by a personal vision, and sustained by personal commitment. However, the solution he looks for must be satisfying and compelling both for himself and for everybody else. In discovery, satisfaction, submission and universal legislation are indissolubly combined (Polanyi 1964, 301). The universal intent of a radical innovation can be

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The resulting circularity does not, of course, make the argument wrong, or even ineffectual. The man who premises a paradigm when arguing in its defence can nonetheless provide a clear exhibit of what scientific practice will be like for those who accept the new view of nature. That exhibit can be immensely persuasive, often compellingly so. Yet, whatever its force, the status of the circular argument is only that of persuasion. It cannot be made logically or even probabilistically compelling for those who refuse to step into the circle. The promises and values shared by the two parties to a debate over paradigms are not sufficiently extensive for that. As in political revolutions, so in paradigm choice – there is no standard higher than the ascent of the relevant community.' Kuhn 1996, 94. Hence Kuhn can talk about paradigms as world views. 'After a revolution scientists are responding to a different world' (Kuhn 1996, 111).

[95] Polanyi differentiates between the 'personal' and the 'subjective' states of commitment. The personal actively enters into the structure of our commitments, while the subjective is merely passive. We transcend our subjective limitations by our personal affirmations. Polanyi: 'Here the personal comes into existence by asserting universal intent, and the universal is constituted by being accepted as the impersonal term of this personal commitment' (Polanyi, 1964, 320, see also Apczynski, 2005, 80).

It has been pointed out that in his later writings Polanyi's research into the nature of tacit knowing moved him away from his focus on commitment (Mullins, 2002, p 214). Newbigin, however, never refers to any of Polanyi's works from this period.

thought of as a sense of its pre-existence. Commitment is a personal choice, seeking and eventually accepting something believed to be impersonally given. There is thus a mutual correlation between the personal and the universal within the commitment situation. Commitment is the only path for approaching the universally valid. Polanyi remarks,

> 'The fiduciary passions which induce a confident utterance about the facts are *personal*, because they submit to the facts as universally valid, but when we reflect on this act non-committally, its passion is reduced to *subjectivity* (Polanyi, 1964, 303).

This may be represented as follows:

From *within*   {personal passion → confident utterance → accredited fact}

From *outside*   subjective belief … declaratory sentence …. alleged facts

The arrows in the first row indicate the force of the commitment, and the accolades the coherence of the elements involved in the commitment, hence they are omitted in the second row.

Any commitment may be doubted, it then passes from row 1 to row 2. This is the movement of doubt. After the reflecting person satisfies his doubt, he re-commits himself to the statement, and the reverse movement is made. The objectivist's dilemma is raised when the objectivist realizes that this second movement involves an act of commitment, which he refuses to make. A conflict arises for the objectivist between a demand for an impersonality that would discredit all commitment and an urge to make up his mind, which drives him to commit himself. This conflict is demonstrated by Russell's **correspondence theory of truth**[96]. Russell defines truth as

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[96] The correspondence theory of truth has recently been defended by Donald Davidson, who referred to it as 'convention T'. Davidson (1973-4) maintains that one should aim for a 'theory of truth' rather than a 'theory of meaning'. This is directly related to his insistence that sentences should be the primary focus of enquiry: a word has meaning only in the context of a sentence – a statement that would be shared by Polanyi. This poses a problem, however. Take for instance the convention T 'snow is white if and only if (iff) snow is white' Davidson says that this is also true in translation: 'Schnee ist weiss' is true iff snow is white. But can we also see 'Allah akbar' iff God is great'. Certainly there are differences of meaning between the Islamic word Allah and the English word God that determine its

a coincidence between one's subjective beliefs and the actual facts. However, it is impossible to say how these could ever coincide on Russell's terms. An outside observer can never compare another person's knowledge with the truth itself. He can only compare the observed person's knowledge with his own knowledge of the truth[97]. We have seen that the principle, which determines heuristic choices in the process of scientific research, is a sense of growing proximity to a hidden truth. Within the framework of commitment this principle reappears as a sense of responsibility exercised with universal intent (Polanyi, 1964, 310). The personal participation of the scientist in drawing his conclusion is completely compensated for by the fact that he is submitting to the universal status of hidden reality, which he is trying to approach. Empirical statements are true to the extent in which they reveal an aspect of reality, a reality largely hidden from us, and existing therefore independent of our knowledge of it. This is borne out by the fact that the implications of a discovery are never known at its birth (see also Kuhn 1996, 24). The scientist's claim to speak of reality serves thus as the external anchoring of commitment in making a personal statement (Polanyi 1964, 311)[98].

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truth value, rather than the other way around? See Anderson et al, 1086, p 160ff for a discussion of Davidson.

[97] Edmund Gettier, in a rather famous article, gives the following definition of knowledge:

S knows that P iff
(i)   P is true
(ii)   S believes that P
(iii)   S is justified in believing that P

Gettier then formulates two instances where, while all three premises are fulfilled, S could not be said to know P. This led to a flurry of research into an additional premise iv (such as, for instance, the requirement of a causal connection between P and the evidence that justifies the belief in P – Goldman, 1993). However, this completely ignores the question that Polanyi raises here: how do you compare somebody's belief with the facts? In other words, is P knowable at all?

[98] This subjective pole is often forgotten by the postmodern philosopher of science. C.f. the following remark by Steve Fuller: 'Knowledge exists only through its embodiment in linguistic and social practices. These practices in turn, exist only by being reproduced from context to context, which occurs only by the continual adaptation of knowledge to social circumstances. However, there are few systemic checks for the mutual coherence of the various local adaptations. If there are no objections, then everything is presumed to be fine. Given these basic truths about the nature of knowledge transmission, it follows that it is highly unlikely that anything as purportly uniform as a mindset, or worldview, or even a proposition could persist through repeated transmissions in time and space. Consequently, unless this point has been explicitly taken into account, if a philosopher or historian claims to have found such uniformity, we should infer that it is an artifact of her analysis, a sign that she has failed to resolve her abstractions at the level on which history actually occurs.' Fuller, 1993, p xv.

'Science or scholarship can never be more than an affirmation of the things we believe in. These beliefs will, by their very nature, be of a normative character, claiming universal validity; they must also be responsible beliefs, held in due consideration of the evidence and of the fallibility of all beliefs; but eventually they are ultimate commitments, issued under the seal of our personal judgment. To all further critical scruples we must at some point finally reply, For I believe so' (Polanyi 1951, 31).

As TF Torrance states it, proper belief is 'a cognitive ascent to some aspect of reality, a basic act of recognition in which our minds respond to a pattern or structure inherent in the world around us, which imprints itself upon them (Torrance 1980, 12). Belief has to be understood 'strictly within the context of a rational submission to the claims of reality upon us and of obligation towards the truth laid upon us by truth itself' (Torrance, 1980, 13). Belief is thus anchored to what is universally and independently true.

Polanyi argues that beliefs and commitment are connected in purposeful action (Polanyi, 1974, 58), which he sees as a characteristic of biological life – his first example involves the motion of an amoeba. Purposeful acts, however, can misfire and thus commit its agent to certain risks: 'Purposeful forms of behaviour are a string of irrevocable and uncertain commitments' (Polanyi, 1974, 59).

Polanyi argues that this is not only the case for scientific knowledge, but that every act of factual knowing has the structure of a commitment. Polanyi believes that he now has eliminated the paradox of self-set standards, for 'in a competent mental act the agent does not act as he pleases, but compels himself as he believes he must'. The possibility of error is inherent to all belief, but to withhold belief on such

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Of course, there is no denying that knowledge is embodied in language and social practice – but only? Is it not true that every time I step into an aeroplane, I prove that the laws of aerodynamics are related to reality? Is it not true that every time I transgress a moral law, and find there are consequences, I confirm that 'we live in a moral universe' (archbishop Tutu). Furthermore, although it seems an open door, albeit one that always seems to escape the postmodernist's attention, it is difficult to see how on Fuller's viewpoint there can actually be something like 'basic truths'. If all knowledge is mere social convention, then the 'basic truths about the nature of knowledge transmission' of course do not escape that verdict. Naturally, Fuller then also has no basis for the superiority of his social convention over that of the philosopher or historian who claims to have found a uniformity in the history of science.

grounds is to break off all contact with reality. Therefore, 'though each person may believe something different, there is only one truth (Polanyi, 1964, 315)[99]. A commitment to what is real will be enough reason to hope that individual beliefs 'will eventually coincide or supplement each other'.

4.3.2   Polanyi's overcoming of the dichotomy between fact and value

Polanyi opposes his theory of meaning to the reductionism of Laplace, who stated that if one knew the movements of all atoms in the universe, one knew all there was to know. Polanyi's attack against such reductionism has two prongs. Firstly, he claimed that although the world of physics and chemistry may be devoid of meaning, the study of this world is controlled by the heuristic passions of the scientists involved: without the personal appraisal of scientists of what is interesting in science, scientific research would lack direction, could not even get started. Furthermore, every intellectual enquiry has to be guided by standards for what entails promising, worthwhile and good scientific research (Allen 1996). This, Allen concludes, is the first breach of the fact-value dichotomy: knowing itself involves the personal employment of standards for what we know and whether we have succeeded or failed in knowing it. This, however, does not yet counter the argument that 'values are not in or an aspect of things, but are projected by us upon things'. Is there meaning in 'things' themselves'? This Polanyi answers with the concept of dual control. A number of examples will illustrate what he means:

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[99] C.f. also Wittgenstein: the road to relativism is closed because of the 'private language argument'. See Wittgenstein, 1992, I, 260ff: a private meaning is not a meaning at all, because we will never know whether the other, with whom we communicate, understood the same by this term
Or I, 272: The essential thing about private experience is really not that each possesses his own exemplar, but that nobody knows whether other people also have this or something else.
Or I, 275: Look at the blue of the sky and say to yourself, 'How blue the sky is!' – When you do it spontaneously – without philosophical intentions – the idea never crosses your mind that this impression of colour belongs only to you. And you have no hesitation in exclaiming that to somebody else. And if you point at anything as you say the words you point at the sky. I am saying, you may not have the feeling of pointing-into-yourself, which accompanies 'naming the sensation' when one is thinking about 'private language'. Nor do you think that really you ought not to point to the colour with your hand, but with your attention (consider what it means 'to point with your attention')
In Polanyi's terms: your attention is subsidiary

1. A machine cannot be explained in terms of physics and chemistry: if a machine is smashed to pieces, it would still be subject to the laws of physics, yet it would no longer exist as a machine. The structure of the machine is determined by engineering principles which harness 'the laws of physics and chemistry for the purposes the machine is designed to serve' (Polanyi 1970). The higher principle of structure controls the lower principles of physics and chemistry.

2. When we consider the complex hierarchy of speaking, we find something similar. Polanyi sees various hierarchical levels at work: first, voice production, the vocabulary and phonetics, next grammar and syntax, and lastly content and meaning (Polanyi, 1970). We see that every higher level transcends the level below it, and that it can be said to represent the meaning of the lower level which it controls. Each level is thus subject to dual control: both by the laws that apply to that level, and by the laws that control the comprehensive entity that combines the elements of this level into a whole (the next hierarchical level). This dual control is made possible by the fact that the principles governing the elements of a lower level leave their boundary conditions open for control by a higher principle.

3. Living beings possess intelligence, which controls and directs the operations of their sensory-motor faculties. However, intelligence is not the ultimate principle or the highest level in the hierarchy governing the functioning of living beings. That is, according to Polanyi, 'the still higher principle of responsible choice. Human beings exercise responsibilities within a social setting and a framework of obligations which transcends the principles of intelligence. Responsible choice in a convivial setting controls the indeterminate powers of intelligence and sets the boundary conditions for their application' (Polanyi, 1970).

We thus find a multiple hierarchy, which leads on to ever more meaningful levels. It should now be clear that 'unbridled detailing', the ideal of Laplacean science, not only destroys our knowledge of 'wholes'; it clouds our understanding of elementary

perception. As an alternative Polanyi introduces his theory of tacit knowing. The subsidiary awareness of details is controlled by the integrating function of focal awareness. Like a focal awareness of the details of a skill destroys my ability to perform the skill, the atomism of the Laplacean ideal destroys my sight on the whole, and I end up with a 'world' composed of bits of matter in which nobody lives' (Polanyi 1970). Paradigmatic for knowledge is the experience we have of our body. This is the only thing in the world that we normally never experience as an object; instead we experience our bodies in terms of the world to which I attend from my body – we are only tacitly aware of our bodies as we attend to the world around us:

'The kind of knowledge I have of my body by dwelling in it is the paradigm of knowing particulars subsidiarily with a bearing on the comprehensive entity formed by them. Hence when I rely on my awareness of particulars for attending to a whole I handle things as I handle my body. In this sense I know comprehensive entities by indwelling their functional parts, as if they were parts of my body' (Polanyi, 1970).

On this basis Polanyi criticizes the evolutionary science of his times (neo-Darwinism), as it tries, true to the Laplacean ideal, to interpret the evolutionary process in terms of adaptation and natural selection, and ignores the importance of organizational principles. It is the latter that guides evolution, the former only describes the conditions under which it takes place (Polanyi 1964, 385, 390). However, does such a view not commit Polanyi to Intelligent Design? This question was examined by the Catholic theologian J V Apczynski, who concludes that this is not the case. He quotes Polanyi, 'No new creative agent, therefore, need be said to enter an emergent system at consecutive new stages of being. Novel forms of existence take control of the system by a process of *maturation*' (Apszynski 2005, 85).

Polanyi takes account of this process with his theory of emergence. Polanyi maintains that random fluctuations occurring within open systems create conditions where higher principles can take control over lower ones. He quotes the example of a flame (Polanyi 1964, 384). The spontaneous ignition of a flame may be a highly unlikely occurrence, however, once ignited a flame forms a very stable system. Polanyi concludes that it is a fundamental property of open systems that they

stabilize any improbable event which serves to elicit them. This is so, because 'its identity is ... defined ... by the operational principles which sustain it' (Polanyi 1964, 384).

Polanyi interprets evolution in a similar manner. However, that begs the question, how do operating principles emerge, or, more precisely, how can a lower level, such as the chemico-physical level, give rise to such organizing principles? Polanyi, after rejecting the possibility of 'the continuous intensification of an external creative agency' (Polanyi 1964, 395), answers this question as follows:

- First he points out that when we talk about hierarchical levels and emergence, we talk about conceptual levels, not necessarily about existential levels (Polanyi, 1964, 394).

- Secondly, he takes his theory of heuristic jumps in scientific discovery, as the paradigm of emergence in evolution. His reason for doing so is the hypothetical association between embryogenesis and philogenesis, the idea that the development of a child from fertilized egg cell through birth and onto adulthood, replays the evolution of man from unicellular organism. Certain chemico-physical configurations intimate operational principles which are grasped by the evolving organism through something akin to a heuristic jump.

- This, thirdly, assumes the existence of a 'centre' within this organism that is capable of making such heuristic jumps, capable indeed of 'actively committing itself' (Polanyi, 1964, 397). Within human philogenesis the 'germ plasm', the 'immortal' part of a human being that lives on in his progeny is such a heuristic centre.

- Polanyi sees such centres operating within a generalized field (akin to a morphogenetic field in embryology). In this way there is a philogenetic field which guides evolution.

Polanyi concludes:

> '... we are driven to assume that the maturation of the germ plasm is *guided by* the potentialities that are open to it through its possible germination into new individuals. We are actually facing then the operations of a philogenetic field guiding anthropomorphic maturation along the gradients of philogenetic achievement ...' (Polanyi 1964, 400).

Polanyi, however concludes this section of his work with a reference to a cosmic field, a sort of overarching field 'which called forth all these centres by offering them a short-lived, limited, hazardous opportunity for making some progress of their own toward an unthinkable consummation' (Polanyi 1964, 405) and identifies this cosmic field with the Christian God.

Chapter 5

Polanyi on Ethics

Abstract:

The objectivistic view of knowledge leaves no space for values, and thus no space for morality or religion. Yet, as Polanyi has shown, values are always presupposed in the acquisition of knowledge. This may remain unrecognized, because it happens tacitly and subsidiarily. However, if these moral commitments are denied, they may resurface as 'scientific facts', something that Polanyi refers to as moral inversion, the re-surfacing of moral passions as pseudo-scientific commitments within ideologies such as Marxism and fascism (5.1). The identification of moral inversion commits him to a distinction between moral passions and responsible choice (5.3). Polanyi distinguishes passions from appetites, and within the passions further distinguishes between intellectual passions and moral passions, and characterizes the latter, with art and religion as 'self-giving passions' (6.1). Responsible choice is governed by self-set rules, which are at the same time binding. Polanyi sees ethical discourse as arising from two conflicts, ie, the fact that we all fail the rules of morality, and the fact that morality is necessarily embodied in institutes of morality which are characterized by parochial loyalty, appetitive property and violent public authority (5.2).

5.1   Moral Inversion

Polanyi is known primarily as a philosopher of knowledge and science, not as an ethicist. Yet the motivation for his 'turn to philosophy' was the political immorality that he observed in the dictatorial regimes of the twentieth century, in particular in the Marxist and Nazi regimes of, respectively, Stalin and Hitler (Wigner and Hodgkin, 1977, 426-430). For what happened during these regimes he coined the term **moral inversion** and a look at what he means by this is the best starting point for his views on ethics.

We find the first description of moral inversion (although he only mentions the term much later in his discussion) when Polanyi deals with the consequences of a Laplacean world view, the 'ideal of absolute detachment by representing the world in terms of its exactly determined particulars' (Polanyi, 1964, 139). But once we have thus represented the world, what exactly have we achieved? We would have a whole lot of 'virtually meaningless information' about atoms and their relations, but would know nothing about 'all things past and all things to come'. The Laplacean ideal that if we would know the position and relations of all atoms at one moment in time we would know all there is to know is thus absurd. Polanyi illustrates this with his analysis of a machine (Polanyi, 1964, 328-332). It would be possible to describe a machine completely in terms of its chemical and physical properties. But that would give us no information about what type of machine this is, what it is for, and how it works. In order to do so we need to know the **operational principle** of the machine. The operational principle is not given in the chemico-physical structure of such a machine; it operates at a higher hierarchical level. There is a mutual relation between these two levels, but this relation is not equal: the operational principle uses the chemico-physical properties of the machinery and gives them meaning by employing them to reach a certain goal. The chemico-physical principles, on the other hand form the boundary conditions with which the operational principles must work.

When the Laplacean ideal, the view of the world as a mechanistic universe, was applied to human affairs, this inevitably led to the mechanical conception of humans, and the denial of the capacity to independent thought. The public good could consequently only be represented in terms of welfare and power. At the same time science was used to discredit 'moral scruples' that would stand in the way of achieving the public good. However, this cannot be done without consequences, for people have moral passions. Polanyi nowhere defines what he means by moral passions, but I take him to refer to the indignation that each of us feels when we see what we perceive as injustice done to ourselves or to those with whom we identify (our children, our kin, our soccer team, our country). When such moral passions no longer are under the control of moral imperatives (the 'moral scruples'), they may

justify unethical behaviour, and this reversal is what Polanyi refers to as **moral inversion**. Polanyi thus sees moral inversion not as a lack, but as an excess of moral aspiration. It is the combination of the desire for moral perfection in a world where such is not achievable together with the denial that morality has autonomy. Polanyi explains that,

> '... our age overflows with inordinate moral aspirations. By absorbing this zeal the objectives of power and wealth acquire a moral sanctity which, added to their supposed scientific necessity, enforces their acceptance as man's supreme and total destiny' (Polanyi, 1964, 142).

Yeager (2002-2003, 25) refers here to pathological moralism, and summarizes the puzzle that occupies Polanyi here as follows,

> '… the demonic is not a force that opposes the moral; it is Western morality's own deepest and, in ways, most seductive temptation. The puzzle that totalitarianism presents to him is, thus, the puzzle of how profound and noble moral aspirations could be so completely twisted and perverted as to result not only in the callous forms of dehumanization epitomized by the unthinkable slaughter of millions of citizens by their own various governments but in the complete subversion of justice, the wholesale sacrifice of freedom, and the systematic substitution of purposeful lies for inconvenient truths.'[100]

5.1.1 Roots of moral inversion

As his leading example of a totalitarian society Polanyi takes Marxism. He observes a self-contradiction in Marx, whose rhetoric he describes as a 'prophetic idealism spurning all reference to ideals' (Polanyi 1964, 228). Why would such a contradictory system have such convincing power? Polanyi maintains that it does so because it

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[100] Cf. Newbigin on Galatians 4: 8-9 (1989, 204-5). See also McCoy, 1991-1992, 37

'enables the modern mind, tortured by moral self-doubt, to indulge its moral passions in terms which also satisfy its passion for ruthless objectivism.'

The criticism has been leveled against Polanyi that his metanarrative of moral inversion is too simplistic. Yeager (2002-2003, 22-48)[101], in a comprehensive study of moral inversion in Polanyi's thought, however, remarks that the rise of totalitarian regimes and the development of moral inversion in Polanyi's thought is the result of many interacting factors. None of these factors would in itself have been sufficient for moral inversion to occur, for this would require the simultaneous embracement of 'the twin devils of the ideal of knowledge as detached objectivity and the ideal of action as moral perfectionism' (Prosch, quoted in Yeager, 2002-2003, 27). Yeager identifies, in Polanyi's assessment of modernity, four factors that foster the idea of moral perfectionism:

1. Contradictions between practice and rhetoric that are implicit in any society 'professing Christian precepts'[102]. These contradictions caused disillusionment and contempt, which in turn provoked a self-conscious amorality. Evil came to be seen as morally superior to good, because at least it was honest, natural, authentic and independent of discredited social conventions.

2. Secularization of Christian aspirations in the form of a secularized chiliastic perfectionism. With this came the conviction that the end justifies the means[103].

3. A dynamic conception of society as progressing towards ever higher and more adequate forms. The absolutization of the individual found its parallel in the absolutization of the individual statesman who may unscrupulously impose his will on the nation, in order to achieve such unlimited social

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[101] In the following analysis of Polanyi's concept of moral inversion and of moral passions I follow Yeager's argument.

[102] For Polanyi characteristic for the Christian faith is the call to moral perfection in combination with the realization that moral perfection is unachievable. This creates a tension that drives the 'breaking out' of the Christian believer. See Polanyi, 1964, 198.

[103] Polanyi does not, however argue against secularization or a naturalist view of the universe. In 1974, 74ff he speaks about these in more positive terms, although he stresses that they are scientific commitments, ie, beliefs

improvement. Likewise, nations obtained the right and duty to fulfil their historical destiny, irrespective of the moral consequences.

4. A changed concept of morality. The decay of belief in revealed absolutes and rationally indubitable universals resulted in a relativization of truth and morals and an awareness of our own role in the shaping of truth. At the same time, a public eagerness was created to embrace the illusion that it was possible to arrive at an impersonal objective morality. Morality, once construed as restraint of passion and achievement of serenity, now came to be understood as the pursuit of the social good. This produced inordinate aspirations and opened the way for moral excess.

Five developments in modernity encouraged moral skepticism, according to Yeager's analysis:

1. Historicism, fueled by the Romanticist idea that man's moral responsibility would be safely grounded in nature. This led to a distrust of society as the carrier of morality, and to an overvaluation of individuality and spontaneity (Rousseau). It also gave rise to the idea that a nation has a right to fulfil its historical destiny, irrespective of the moral consequences.

2. Scientism: the development of a mechanistic conception of the natural world, of man and of the political world and investing such interpretations with the objective, unassailable authority of science. Utilitarian thinkers presented man as 'a bundle of appetites feeding themselves according to mathematical formula'.

3. Rationalist anti-traditionalism, which sought to give naturalistic explanations of morality.

4. Methodological doubt, the demand that all beliefs must first be subjected to the acids of rational criticism.

5. Reductive mechanical accounts of persons and politics: this emphasized the importance of material welfare, and of technology as the prime way of human improvement.

Essential in the development of moral inversion is what Polanyi refers to as **dynamo-objective coupling**, which he describes as follows:

> 'Alleged scientific assertions which are accepted as such because they satisfy moral passions, will excite these passions further, and thus lend increasing convincing power to the scientific affirmations in question – and so on, indefinitely' (Polanyi 1952 230)[104].

Elsewhere he argues that totalitarianism is the outcome of an inherent conflict in Western culture between Christian beliefs and Greek doubts, which in his opinion are logically incompatible. Polanyi refers here to the 'prophetic passion of Christian Messianism', 'the ever-unquenched hunger and thirst after righteousness which our civilization carries in its blood as a heritage of Christianity' and which does not allow it to 'settle down in the Stoic manner of antiquity'. Modern totalitarianism solves this conflict 'by embodying our heritage of moral passions in a framework of modern materialistic purposes' (Polanyi 1951, 109-110). It should be pointed out, however, that the kind of premillenialist' movements, such as the Donatists in the 4th century, or the Munster Anabaptists of the 16th century have always been fringe movements in the Christian Church, who placed the Messianic hopes in the life hereafter. It was only when Christian Messianism was secularized, in particular by Marx and Engels, that the conflict arose to which totalitarianism became the solution.

5.2   Moral Passions and Moral Institutions

Polanyi distinguishes between on the one hand moral passions, and on the other hand moral judgments. I believe that Polanyi intended the relation between the two to be that the former are the lower hierarchical level of which the latter is the

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[104] The psychiatrist James Hall (1992), sees dynamo-objective coupling also at work in neuroses: 'when used as a global defense mechanism, I have referred to the neurotic dynamo-objective coupling as 'pseudo-objectivity'. In the pervasive form of an established neurotic personality pattern, there is a covert negative moral judgment of the self-image, with a resultant sense that the shadow is a false 'true self'. The anima … the principle of relationship, then functions in a negative and defensive manner. Such a neurotic pattern is essentially unassailable from outside. It must be raised to consciousness, faced with courage, and may be undone only from inside the neurotic psyche.

organizing principle. Moral judgments are appraisals, and as such are similar to intellectual valuations. Like intellectual passions, the 'thirst for righteousness' satisfies itself by seeking to enrich the world. Moral man 'strives to satisfy his own standards, to which he attributes universal validity' (Polanyi 1964, 214). As far as science is concerned, Polanyi's point of view comes close to that of what Baehr (2006, 133) refers to as 'virtue responsibilists'. Baehr cites as examples of intellectual virtues 'traits like fair-mindedness, open-mindedness, intellectual carefulness, intellectual courage and the like.' Baehr argues that

> '...reaching the truth is not simply or even primarily a matter of having good eyesight or a good memory, or making valid logical inferences. Rather, the individuals in question reach the truth because they manifest certain inner attitudes or character traits. These traits seem to explain best or most saliently why the individuals get to the truth' (Baehr, 2006, 200)[105].

Intellectual virtues occupy the same place as commitment in Polanyi, as may be deduced from his following quote:

> 'But universal validity is a conception which does not apply outside the commitment situation. Any reference to it is merely a manner of expressing our submission to an ultimate obligation and can appear only as part of a fiducial declaration … Science can never be more than an affirmation of certain things we believe in. These beliefs must be adopted responsibly, with due consideration for the evidence and with a view `to universal validity' (Polanyi, 1974, 80 see also 66).

Intellectual virtues in science are equivalent to moral virtues in ethics. They are expressions of commitment and thus part of what forges the link between theory and reality. However, moral judgments cut deeper than intellectual valuations. An

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[105] The individuals that Beahr refers to are represented by three scenarios he pictures, that of a biologist that discovers why a certain bird species has altered its migratory course on account of his patient, focused, enquiry and his refined powers of observation and discrimination; that of a reporter who discovers a corporate scandal involving the owners of his newspaper, because he is intellectually courageous and autonomous; and that of an historian who accepts and acknowledges a major error in her work because of her intellectual openness, humility and general love of truth.

intellectual genius may be a vain or spiteful person. For a person to be valuated morally good, however, he or she must be a good person. Moral valuations thus do not consider the rightness of a faculty, but of the entire person. But this means that to be morally good is 'to comply with a code of morality, custom and law'. Therefore morality is an 'instrument of civic power in the hands of those who administer moral culture'.

In order for morality to function in a society, moral rules and passions must be shared by a group of people. And in order to achieve such sharing, a society must embody its moral rules in cultural institutions, such as universities, churches, schools, picture galleries, etc. Prosch talks about 'individual cultures' and defines them as 'those particular social capacities that enable us to paint, to write, to inquire into various subjects and areas, to practice medicine, law or other professions or occupations' (Prosch 1972, 105). Within these cultures people with like interests work together to achieve a common goal, and to this end they come to know, from their general acculturalization and education in the traditions and life of these groups, what standards, methods and principles are commonly respected' (Prosch 1972, 106). Defined in this way, as a kind of social skills the concept comes rather close to Alasdair MacIntyre's discussion of ethics within the context of *social practices* (MacIntyre 2002, 187ff). We learn this ethos, Polanyi maintains, by tacit learning, through observing mentors and leaders in the field at work.

However, if morality is tied up within such civic 'institutions', it is inevitably rooted in group loyalty, property and power. However, Polanyi states, 'loyalty is parochial, property appetitive and public authority violent' (Polanyi 1964, 215). Morality in society is thus characterized by a contradiction between individual culture, where individuals make their own moral validations, and civic culture, where morality is governed by society through its civic institutions. Polanyi does not think that this contradiction can be avoided. If justice is not administered by force, it necessarily will benefit the law breaker, and harm those who abide by the law (Polanyi 1964, 224). It then is no longer justice but injustice. This dependence of moral standards on institutions that depend on group loyalty, property and power will render them

suspect. Civic culture can only flourish through coercion. It is thus 'sown in corruption' (Polanyi 1964, 224).

Societies in which these institutions flourish are characteristic of the period after the French and American Revolutions. Before this, societies (Polanyi is talking about Western societies here), functioned as an hierarchical social structure, where the cultural pursuit flourished within a restricted set of specific beliefs which the members of this society were unlikely to challenge. After the two liberal revolutions, however, 'did the conviction gradually spread that society would be improved indefinitely by the exercise of political will of the people, and that the people should therefore be sovereign, both in theory and fact' (Polanyi 1964, 213). This realization gave rise to two types of modern societies, Polanyi maintains: the totalitarian society that 'tries to fulfil the Laplacean programme by subordinating all thought to welfare, and a free society which accepts in principle the obligation to cultivate thought according to its inherent standards' (Polanyi 1964, 213). The former is characterized by moral inversion. The latter is the liberal, open society that Polanyi (and Popper) set out to defend.

5.3 Moral Passions and Responsible Choice

The analysis of moral inversion brings Polanyi to distinguish between moral passions on the one hand and moral ideas on the other (see also Yeager, 2002-2003, 35). Moral passions are inherent in all men; moral ideas, apparently, are not. But what does Polanyi understand by moral passions? In the context of conviviality Polanyi speaks about a 'kind of physical sympathy which overcomes the onlooker at the sight of another's sharp suffering' (Polanyi 1964, 205). It is interesting that this 'sympathy' not only affects those who are sympathetic towards the sufferer, but Polanyi points out that even 'the most determined criminals are liable to be affected by physical compassion', and quotes the example of the Gestapo chief Himmler, who 'came near to fainting' at the sight of the killing of a hundred Jews in his presence. Yet this is not sufficient to account for morality. We may squirm at watching a cow being killed, but that stops very few of us eating beef. Himmler's near faint did not result in him

cancelling the Holocaust, but in the adoption of the gas chamber as a method to 'solve the Jewish problem'. There is, however, another passion that we all experience, and that is the feeling of indignation when we or someone we may identify with (a spouse, child, family member, person with whom we share a religion, nationality or race) suffers 'unjustly' (however we may define this). Is this what Polanyi refers to when he speaks about moral passions? By choosing his starting point in moral inversion, Polanyi has committed himself to the view that moral passions exceed the mere parochial. Yeager, quoting Polanyi's article 'beyond Nihilism' says that the latter speaks of

> '... 'a fierce passion for humanity', 'that sublime and sacred love of humanity', 'the deep horror of tyranny', the 'compassionate zeal for the oppressed' and the 'sacred love of the fatherland.'

And adds,

> 'These are motivations of a sort that can make bearable supreme self-sacrifice; they are motivations that therefore open on the sacramental and the demonic' (Yeager, 2002-2003, 40).

A further clue lies in Polanyi's distinction between appetites and passions, and further between intellectual and moral passions. Appetites and passions both are 'pervasive conditions' that 'pervade the whole person'. They differ in three respects:

1. Appetites are grounded in our existence as biological animals, and are directed towards bodily satisfaction. Passions, however, belong to a 'higher emergent level', a 'layer of reality that is essentially a social construction'. Passions are therefore related to the emergence of symbolic thought. This means that we are in a twofold relation to them: we are both their authors and yet we accredit their authority over us: 'They speak to us and convince us, and it is precisely in their power over our minds that we recognize their justification and their claim to universal acceptance' (Polanyi, 1957, 265). Polanyi thus would reject the notion that the moral is ultimately grounded in self-interest.

2. While appetites are subjective, passions are not, because they are a function of a shared framework which the individual agent must indwell. The framework is learned, but at the same time accepted and endorsed by the individual agent by active affirmation and commitment. Therefore, what the individual finds personally satisfying at the same time reinforces and builds up the social reality of which his passions form a part. As Roberts summarizes Polanyi's thought here, '... whereas scientific concepts are rooted in a reality independent of us, moral concepts are rooted in our ideas about goodness and rightness' (Roberts, 1969, 239)[106].

3. Satisfaction of appetites is self-limiting and competitive: an animal that eats is no longer hungry, but the food is no longer available to other animals. Passions, on the other hand are never satiated by achievement. However, their fulfilment does not deplete the environment but enriches it. Moral practice involves sacrifice and self-transcendence.

Polanyi states therefore that an assessment of a person's intellectual worth is an assessment of some faculty of this person, while an assessment of a person's moral worth is an assessment of the whole person (Polanyi 1964, 215)[107].

A mental passion is 'a vector extending from a proximate root in my bodily being to an objective that I seek. At its proximate root, it is a communally engendered emotion or a motive – that is, it is a directed longing or desire, a power of acting toward achievement, an impelling of my person toward an anticipated but as yet unreal state of affairs. As such, mental passions ... belong to the tacit dimension of my being; no fully explicit account of them can be given (Yeager, 2002-2003, 36).

Moral passions must be distinguished from **responsible choice,** which Polanyi identifies as the operational principle of morality. He places this above the level of intelligence. Yeager quotes Polanyi here[108]:

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[106] He adds in a footnote 'The Polanyian concept of morality transcends the relativist-absolutist dichotomy'

[107] Within the passions Polanyi distinguishes between moral and intellectual passions. This lies in the fact that he sees moral passions as passions in which the entire person is involved, 'underwritten by the deepest resources and strengths of personal being'. Yeager 2002-2003, 40. He quotes Polanyi 1957, 215: moral excellence is excellence of the whole person.

'But the principle of intelligence is not the ultimate principle or the highest level in the hierarchy governing the functioning of living beings. Just as the sensory-motor levels of life leave themselves open to the control of intelligence, so the principle of intelligence leaves its powers open to the still higher principle of responsible choice. Human beings exercise responsibilities within a social setting and a framework of obligations which transcend the principle of intelligence. Responsible choice in a convivial setting controls the indeterminate powers of intelligence and sets the boundary conditions for their application'.

Responsible choices are taken on the basis of 'self-set' rules, which are at the same time considered as binding, as 'above' man. Prosch (1972, 100) summarizes Polanyi's thought by making a comparison with scientific knowledge: because in scientific knowledge we reach out to reality, we hold it with universal intent, meaning that we expect others, when equally equipped, to also be able to find it, for they will be able to recognize the discipline that the external pole has imposed on us. In our scientific work we make use of certain rules and standards that we consider to be universal, because they are 'the proper ones' for all to use. However, we cannot explicitly fully justify these rules as this would lead to an infinite regress. We can only indwell them[109].

When we, thus indwelling the rules, make integrations with universal intent, the rules will function as some of the subsidiary clues to such integrations. Since we consider the integrations that we accept with universal intent to be valid, we will also accept the subsidiary rules that led to such integrations to be valid. A rule that we accept as valid with universal intent is a standard to which we acknowledge an obligation.

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[108] From Polanyi, *Transcendence and self-transcendence*
[109] Wittgenstein makes a similar argument in *On certainty*: rules can only be justified by other rules, which must, in turn be justified themselves, and so on, *as infinitum*. Rules are thus, essentially, rule-less. See Zenhua, 2006-2007, p 15.

5.4   Nuremberg 1947, Tuskegee 1972

A striking illustration of what Polanyi is talking about is given in the happenings of the Nuremberg Medical Trial and the Nuremberg Code (Weindling, 2001). At these trials Nazi doctors were accused of performing unethical experiments on human prisoners and inmates of concentration camps. Their defense used the argument that human experiments involving prisoners were common place as well in Allied countries (for instance, a malaria research had been conducted in an Illinois penitentiary). The American scientific community perceived this defense as a threat towards future medical research, if it resulted in the Nuremberg judges condemning human experimentation altogether. This necessitated the formulation of a code that distinguished unethical from ethical experiments involving human subjects, a task that was facilitated by the work of the physiologist Andrew Conrad Ivy and the neurologist Leo Alexander. Although the Nuremberg code, the presiding trial judge Walter Beals stressed, was not used by the judges in reaching their verdict, the prosecution relied on its distinction between ethical medical research and the crimes against humanity perpetrated by the Nazi doctors. Ivy had stressed in his work on preliminary versions of the code that it was merely an application of the ancient Hippocratic oath, although this link was not included in the final version.

The Nuremberg code identified a number of criteria to which research involving human subjects must confirm to be ethical. The most important of these was that the research must benefit humanity, that the gains must exceed the risks and that the human subjects must give informed consent before participation. It should be stressed that the main motivation for the Allied scientists to adopt the code was not the desire to become more ethical, but fears for the future of medical research. The defense lawyers had indeed been right, unethical research – as defined by the Nuremberg code – was taking place in Allied countries as well as in Germany. The best-known of these research programs was the Tuskegee Syphilis experiment (Lonbardo and Dorr, 2006). In this study, which ran from 1932 to 1972, 400 black men who had contracted syphilis were followed up without offering them treatment in order to follow the natural history of this infection within the black population. The study was informed by the eugenic hypothesis that different races react

differently to infectious challenges. During the study, American Public Health Service physicians misled their patients by describing diagnostic spinal taps as therapeutic procedures and withholding curative penicillin treatments. In 1972, the study was condemned as being unethical and stopped, evoking an official apology from the president of the USA. What was interesting, however, was that during the initial stages of the study the Afro-American communities in which the study was performed hailed the study directors as sympathetic to the black American cause.

What we have seen happening was that when the need (a pragmatic, not a moral need), was appreciated to formulate principles for ethical research, such principles became binding on the scientific community that formulated them, i.e. they accepted these principles with universal intent, even though the practice of their members was not in keeping with this code. In recent years we have seen an increasing refinement of the code rather than a slacking of it. Once formulated, the code was, despite claims to the contrary, used in the trial of the Nazi doctors, thus demonstrating that once accepted it was accepted with universal intent. This neatly illustrates Polanyi's principle of responsible choice on the basis of self-set rules which are at the same time binding. Like in all knowledge this commitment to ethical rules, with universal intent, reflects the belief that such rules reach beyond the mere subjective and represent something about reality, something about the real state of affairs.

Chapter 6
Polanyi on Faith

Abstract

This chapter investigates Polanyi's assessment of religious faith and beliefs. Polanyi argues that there are many similarities between art, morality and faith, in that they are self-giving passions – in contrast to science which is self-centred. Art, morality and religion all have the ability to carry us away beyond ourselves and our conceptual systems (6.1).

Polanyi takes the experience of the believer in worship as paradigmatic for religion and characterizes religion as 'breaking out' of the systems we indwell (6.2.1). This happens in worship, where the believer confidently asserts the existence of God and surrenders to Him. Theology, as theoretical discipline, spells out the implications of worship and can only be true if it is an adequate expression of faith. Faith depends on facts, but only by transposing these into its own universe (6.2.2).

Polanyi's starting point in Gestalt has committed him to the recognition of purpose in reality, and requires of him to account for this in view of evolution. He rejects the standard mechanistic explanation that purposeful systems are the result of natural selection and states that purposeful systems need an organizational principle that is of a higher organizational level. He states that such principles emerge during evolution under the influence of a cosmic field. Polanyi sees God as somehow related to this cosmic field (6.2.3).

An evaluation of Polanyi's thoughts on religion follows (6.3) and the chapter finishes with a look at some developments in contemporary Christianity in the light of Polanyi's views (6.4).

6.1   Arts, Morality and Religion – Self-Giving Passions

Polanyi argues that, in order to understand faith we first must make a differentiation between appetites and scientific passions on the one hand, and the passions of arts, morality and religion on the other hand. While in the former the subsidiary clues carry no interest to us compared to the objects we are focally concerned with, in the latter the situation is reversed. In science we are *self-centred*, because we proceed *from* the self as centre which we tacitly indwell, *to* the focus of one's attention. Arts, ethics and religion, on the other hand, are *self-giving*. Knowing in arts, morality and religion is therefore at a deeper level of involvement. Polanyi first explains this with an analysis of art. In art it is precisely the subsidiary clues that draw our attention. Art works with symbols, metaphors, rituals, representations. In a symbol, such as a national flag, it is not so much the piece of cloth with a particular color arrangement that is of importance to us, but all the subsidiary knowledge that this symbol evokes in us: the feelings of home, the joy of being among people that understand your jokes, the pride in 'our soccer team', etc. Such symbols, metaphors and rituals have the ability to lift us above ourselves, to carry us away, 'through the integration of incompatibles that renders their connections transnatural' (Polanyi, quoted in Prosch 1972, 102). Polanyi refers here to the incompatibles of a metaphor, where the meaningful integration of its elements does not make sense in a literal sense. The integration of incompatibles, however, opens up a whole array of meanings, which explains its ability to *carry us away*. Therefore the work of art serves as a focus point for 'the myriad emotions, ideas, sensations and impulses which constitute our being, such that through it they are "refashioned and amplified into something new' (Polanyi, quoted in Bowman, 1982, 79).

Polanyi sees a similar incompatibility at work in ethics. Ethics is concerned exactly with this being carried away beyond ourselves. He points to two incompatibilities which are at the root of Western ethics:

1. Christianity demands allegiance to moral ideals, while at the same time asserting that we shall all fail in achieving them.
2. Moral ideals need to be embodied in the institutions of society. However these are characterized by parochial loyalty, appetative property and violent public authority.

Only when ethics grows out of a *meaningful integration* of such incompatibles can it become trans-natural and carry us away into a morality to which we are truly committed.

McCoy (1991-1992, 37-38), in an article on Polanyi's ethics, speaks in this context about dilemma ethics, and elaborates: 'This type of ethics sees ethics arising when dilemmas arise; once tension is perceived between alternative courses of action, ethics is required to resolve the dilemma and prove a basis for choice. A dilemma, however, does not emerge except within the context of a tacit coefficient internalized in community'. McCoy, however, misunderstands Polanyi here. Ethics does not come into existence with the dilemma, but the dilemma is caused when the moral passions, seeking perfection, come up against the realities of the universe in which they must operate, the reality of the imperfect man, of parochial loyalty, of appetitive property and of violent public power (see chapter 5. 2). This misunderstanding leads McCoy to reject the notion of ethical universals. Although it is true that Polanyi (like Wittgenstein and Popper) rejects the notion that ethical rules can be justified rationally because that would involve an infinite regress, and are indeed formulated by man, he nevertheless insists that we hold them with universal intent, as rules for our own, but also for others' behaviour, and thus as universal rules. Although objectively I know that the ethical rules that I hold could be wrong, subjectively I hold them with universal intent (otherwise I would have to reject them and exchange them for another set of rules). Likewise, if it were shown to me how my ethical beliefs are wrong, I would drop them.

6.2   Polanyi and Faith

What is the relevance of Polanyi's thoughts on faith and theology? Although Polanyi's main concern is to formulate a 'post-critical philosophy'[110] of science, it can be expected that this project will have important implications for the rehabilitation of faith and theology as human activities dealing with true knowledge. This already becomes clear when he sees himself as standing in the tradition of St Augustine, and quotes his *nisi credideritis, non intelligitis* with approval. On a number of occasions Polanyi invites the comparison of his philosophy with faith in God, based on his insistence that the nature of all knowledge, scientific or religious, is similar (Polanyi 1964, 280. See also Burt, 1969, particularly 45-46). In a number of places, he draws out such parallels.

6.2.1   Faith as a Sustained Effort to Break Out

Polanyi makes his most basic statements about the nature of the Christian faith in the context of his discussion on indwelling. From a very young age we start constructing frameworks from within which we can handle reality. This process culminates in frameworks such as those created by the scientist. Throughout this process we both indwell these frameworks as well as try to break out of them in order to establish an even more rigorous and comprehensive one in its place. Scientific discovery, in leading from one such interpretative framework to another, 'bursts the bounds of disciplined thought in an intense if transient moment of heuristic vision' (Polanyi, 1964, 196). While thus breaking out of the bounds of its framework, the mind experiences 'for a moment its own contents, rather than controlling it by the use of any pre-established modes of interpretation'. Self-knowledge is thus an integral part of science. The mind is 'overwhelmed by its own passionate activity'. Science is therefore both a continuous indwelling of the scientific tradition, and breaking out of this tradition in new discoveries. Milavec speaks about the 'two dialectically interwoven aspects of human knowing', and continues,

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[110] The subtitle of *Personal Knowledge*

'We arrive at dwelling within a system by submitting ourselves to an apprenticeship under the direction of its practitioners such that we may replicate in ourselves their powers of knowing, admiring and doing. We arrive at breaking out by submitting to the demands and the adventure of discovery that guide us toward making fresh contacts with the realities that we have been trained to admire and serve' (Milavec, 2006, 475).

It is here, in this breaking out, that Polanyi sees a correlation with the Christian mystic: the ecstatic vision is 'the most radical manifestation of this urge to break through'. Contemplative thought dissolves the screen put up by our interpretative frameworks through which we handle experience, it pours us straight into experience and immerses us into it. Contemplation 'has no ulterior intention or ulterior meaning; in it we cease to deal with things and become absorbed in the inherent quality of our experience' (Polanyi, 1964, 197). The mystic, in his contemplation, loses his personality, while the objects of his contemplation lose their objectivity. They become at the same time more vivid and more dreamlike, the latter because contemplation is timeless and without definite special location:

'By concentrating on God, Who is beyond all physical appearances, the mystic seeks to relax the intellectual control which his powers of perception instinctively exercise over the scene confronting him. His fixed gaze no longer scans each object in turn and his mind ceases to identify their particulars. The whole framework of intelligent understanding, by which he normally appraises his impressions, sinks into abeyance and uncovers a world experienced uncomprehendingly as a divine miracle' (Polanyi, 1964, 197).

The mysticism here described is what in theology is referred to as the *via negativa,* and is associated with the name of Pseudo-Dionysius, who taught that the mystic, through a series of 'detachments', should seek in absolute ignorance to become one with God, Who is beyond all being and all knowledge. In this way the mystic seeks reconciliation: man surrenders to God, in the hope of gaining forgiveness and admission into God's presence. Polanyi says, 'the radical anti-intellectualism of the

via negativa expresses the effort to break out of our normal conceptual framework and 'become like children'' (Polanyi, 1964, 198).

By taking the vision of the Christian mystic as his paradigm case, Polanyi is talking primarily about a certain – and rather unique – type of Christian experience. But is this characteristic of the 'normal' Christian life and experience, or is this compatible with the heuristic impulse of the scientist? Every revelation of God, in Scripture and in Church history, was associated with a 'world change' for those who experienced it. Milovec (2006, footnote 5, 485), who recognizes that in Christian experience there is necessarily both an indwelling as well as a breaking out, remarks in a footnote that Polanyi is 'hampered here by his own ill-informed and marginal participation in both Judaism (the nominal religion of his parents) and Christianity (the religion of his hero, Dostoevsky, and the nominal religion of his later years).'

Christian faith as a whole is such a 'sustained effort to break out, sustained by the love and desire for God, a God who can be loved but not observed'. Closeness to God is not observation, it 'overwhelms and pervades the worshipper'. Although mystics are fond of speaking about religious ecstasy in erotic terms, it differs from this in that religious ecstasy is an articulate passion, and is only comparable in the surrender achieved by it. This surrender corresponds to the degree in which the worshipper indwells religious ritual. Religious ritual exists in a sequence of words and gestures involving the whole existence of the worshipper, and completely absorbing him if he does them sincerely. However, this indwelling of the Christian worshipper differs from any other indwelling, in that this indwelling is not enjoyed. 'The confession of guilt, the surrender to God's mercy, the prayer for grace, the praise of God, bring mounting tension'. It is to remind man of the obligation to achieve what he knows is beyond his unaided powers, and to strive towards it 'in the hope of a merciful visitation from above'. Part of the Christian faith is that its striving can never reach an end point at which, having gained its desired results, its continuation would no longer be necessary (Polanyi, 1964, 280):

> 'The indwelling of the Christian worshipper is thus a continued effort at breaking out, at casting off the condition of man, even while humbly acknowledging its inescapability' (Polanyi, 1964, 198).

The heuristic character of Christian worship is fuelled by the 'intimations of discoveries still beyond our horizon'. It is unclear whether Polanyi has the eschatological or the 'eternal irresolvable tension' – between a problem known to be irresolvable and the heuristic command 'look at the unknown' – in mind here.

6.2.2 Faith and Theology

Polanyi's second rather lengthy discourse about religion comes within the context of his critique of doubt. Religion is an act of worship, it is something we indwell rather than something we affirm. God cannot be observed, just like truth or beauty cannot be observed. He exists in the sense that He can be worshipped and obeyed, but He can not be experienced as a fact. He can only be apprehended in serving Him.

When we say 'p is true', we are not just making a statement of fact, but we are asserting the confidence we have in p. The proposition 'God exists' is a proposition of this kind. It can 'only be uttered with varying degrees of confidence, and what its assertion may lack in perfect assurance might then be regarded as the doubt attached by the speaker to his own assertion (Polanyi, 1964, 280).

This doubt is a tacit doubt, an inarticulate hesitancy, 'like that of a marksman dubiously pulling the trigger'. By saying 'God exists', the speaker has surrendered to God.

Heuristic impulses can only function in the pursuit of their proper enquiry, and for the Christian impulse, the enquiry is worship. Worship forms the framework, the dwelling place of a passionate search for God, and thus cannot say anything true or false. Statements made in a worship service, such as the *Credo*, or Bible quotations, are not quoted to convey information, but as starting points for teachings that sustain the faith. They have thus a subsidiary character.

So what about the propositions of theology, and the records of the Bible when taught in themselves? Only a Christian who submits himself to his faith can understand Christian theology, and can enter into the religious meaning of the Bible. Theology is a theory of religious knowledge, and a corresponding ontology of the things that are known in this way. As such, it spells out the implications of religious worship. It can indeed be said to be true or false, but only in the sense of being an adequate expression of a pre-existing religious faith:

> 'While theological attempts to prove the existence of God are as absurd as philosophical attempts to prove the premises of mathematics, or the principles of empirical inference, theology pursued as an axiomatization of the Christian faith is an important analytical task' (Polanyi, 1964, 282).

Theological accounts of God will appear meaningless and often paradoxical if claimed to be valid within the universe of observable experience.

However, despite its a-critical character, the force of religious conviction depends upon factual evidence. So how can religious faith depend on such observable facts, or, more precisely, on the truth or falsity of propositions regarding observable facts. Christian faith comprises a framework of clues, of words and gestures that are aimed to initiate a compassionate search for God. In order to impress, say a child or non-believer, the framework must impress initially by the appeal made by its doctrines, its narratives, its morality or its rituals. Historical evidence in favor of some key element of the gospels will strengthen, while Biblical criticism might weaken the framework.

The Christian framework, however, is like a scientific outlook, a form of highly personal knowledge which subsidiarily comprises a set of relatively impersonal experiences. These 'secular' experiences form its raw material. Religion uses such experiences to build up its own universe. The convert 'enters into the articulate framework of worship and doctrine by surrendering to the religious ecstasy which their system evokes and accredits thereby its validity' (Polanyi, 1964, 283). Religion transposes all intellectual experiences into its own universe while it has, in reverse, been the theme of most other intellectual systems. There is thus a mutual

interpretation of religion, art and science. However, the findings of the religious and the natural bypass each other, and therefore 'you cannot prove or disprove Christianity by experiments or factual records' (Polanyi 1964, 184).

Polanyi illustrates this with reference to miracles. Philosophers such as Hume have demanded that the acceptance of miracles would depend upon factual evidence. However, the contrary is true: as soon as a miracle can be experimentally verified, this would disprove its miraculous character. Polanyi, commenting on a recent biological suggestion that under exceptional circumstances a virgin birth would be possible, maintains that this, if accepted as the explanation of the birth of Christ, would not confirm, but totally destroy the virgin birth.

> 'Observation may supply us with rich clues for our belief in God; but any scientifically convincing observations of God would turn religious worship into an idolatrous adoration of a mere object, or natural person' (Polanyi 1964, 284).

Of course, this does not mean that historical factuality is unimportant: an event that has never taken place can have no supernatural significance, and whether it has taken place or not must be established by factual evidence. But the evidence that a certain fact has occurred does not always reveal its religious significance, which can better be conveyed by a narrative describing its occurrence. The scientific picture of the origin of the universe denies any meaning to the world, and ignores every vital experience that we have of this world. The picture painted by the Creation stories in Genesis suggests that the world has meaning and that this meaning is 'linked to our own calling as the only morally responsible beings in the world' (Polanyi, 1964, 186).

Polanyi ends this section as follows:

> 'The extensive dogmatic framework of Christianity arose from ingenious efforts, sustained through many centuries, to axiomatize the faith already practiced by Christians. In view of the highly imaginative and emotional powers by which Christian beliefs control the whole person and relate him to the universe, the specification of these beliefs is much more colourful than

the axioms of arithmetic or the premises of natural science. But they belong to the same class, performing kindred fiduciary functions' (Polanyi, 1964, 286).

We owe our mental existence to the articulate systems we indwell, such as those of works of art, morality, religious worship and scientific enquiry. Objectivism has totally falsified our concept of truth, by exalting what we know and can prove, while bringing into disregard all we know and cannot prove.

6.2.3   Religion and Emergence

The third statement on religion Polanyi makes in the context of his treatment of the evolution. He starts the last part of his book with the discussion of the machine that we have alluded to earlier. On the basis of his findings there, it should be clear that Polanyi has no patience with a mechanistic explanation of evolution that sees this process as merely a development of genes[111]. The solution that Polanyi proposes as alternative is as follows: The genes are merely a lower level in a series of hierarchies, that each is governed by the level above. Each level finds its operational principle in a higher level. And in an organism all levels find their organizational principle ultimately in an active centre[112]. But how do such higher levels and these active centres come into existence during the process of evolution? Polanyi here also refuses a God-of-the gaps solution. Instead, he postulates the existence of fields. When he wrote embryologists assumed that during the formation of the embryo morphogenetic fields enticed the information coded for in the genes to become a living organism of a higher level. Polanyi postulated that such fields were present in the universe and enticed the emergence of higher hierarchical levels during the course of the evolution, resulting in the coming into the existence of such self-acting centres. He considered such fields as part of natural reality, which had been present

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[111] Recently defended by Richard Dawkins and Daniel Dennet, see Haught and Yeager, 1997, p 551ff.
[112] Avery Cardinal Dulles develops this into an interesting theory about the manner in which God intervenes in His creation, without having to set aside the laws of nature (2001, p 548-550).

in the universe from its very beginning. But overarching them all was a 'cosmic field', of which Polanyi writes in the last sentences of *Personal Knowledge* as follows,

> 'We may envisage then a cosmic field which called forth all these centres by offering them a short-lived, limited, hazardous opportunity for making some progress of their own towards an unthinkable communication. And that is also, I believe, how a Christian is placed when worshipping God' (Polanyi 1964, 405, cf. Bevans 1988, 103) .

Haught and Yeager (1997, 548) remark:

> 'Like other living organisms, humans are drawn or lured towards realities that to our way of knowing and being are initially tacit, 'proximal' and focally ungraspable: we know more than we can say. We are perpetually restless and dissatisfied, creatures whose nature it is to long, to adventure, and to reach. The metaphysical foundation of this reaching is the independent reality of a 'cosmic field' that instigates, guides and answers to that restlessness without ever setting it at peace with (...). For Polanyi this cosmic field is not an evolving God or an emergent deity only deficiently real or merely on its way to being. The divine powers do not depend on us; they visit us, call us, strew gifts in our way, but their regulative or organizing focus or influence flows one way only. They seek the response of a world capable of, but not coerced into, emerging toward ever more intense degrees of commitment.'

And elsewhere,

> 'Polanyi's metaphysics is … a metaphysics of calling rather than of design, centralizing freedom rather than law, and change rather than fixity' (Haught and Yeager 1997, 540).

Haught and Yeager compare Polanyi's thinking here with that of theologians such as Karl Rahner, Bernard Lonergan, Thomas Torrence and Wofhart Pannenberg[113]. One may also make a comparison with CS Lewis' romantic theology .

Walter Gullick (2005) argues that Polanyi criticized neo-Darwinism on two grounds: that it cannot explain the emergence of discontinuous species, and that a teleological ordering principle is needed to explain evolutionary chance. Gullick maintains that Polanyi's critique of neo-Darwinism is flawed, because it would rely on an Enlightenment idea of progress, and upon 'untenable analogies from the human process of scientific discovery'. I pose that Gullick's own criticism arises from a misinterpretation of Polanyi's argument. Polanyi has not so much a problem with the emergence of new species, but with the emergence of new organizational levels. Gullick's reference to chaos theory and complexity theory is not very successful here. Although I agree that it is difficult to see what Polanyi's basis is for extending the process of scientific discovery to the emergence of new organizational levels, this is not the reason that Polanyi posed a teleological understanding of evolution: that stemmed from his analysis of the machine. Because it was not possible to describe a machine without assuming a teleological organizing principle, he argued that this was even more so for a complex 'machine' as the human organism. Lastly, to see in the idea of progress in the evolution of species a smuggling in of 'an essentially Enlightenment notion of progress' is a bit of a forced argument. If the evolution of life from lifeless matter, the emergence of consciousness, of a being that can appreciate the beauty of the natural world, is not progress, than what is it?

6.3   Evaluation of Polanyi's thoughts on religion

Frei (1974)[114] argues that somewhere in the eighteenth century the reference point of biblical narrative shifted from within the stories themselves to somewhere beyond the stories: the realm of God's absolute truths. Instead of the conveyers of

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[113] See eg, Pannenberg 2006, 105-112.

[114] I have illustrated this in den Hollander 2004 with the example of the story of David and Goliath, which in the hands of some evangelical preachers has changed from an event in the personal history of king David, to an illustration of how one can conquer one's 'giants', meaning problems, sins, or whatever the preacher fancies to make of it.

'God's mighty acts in history' biblical narratives became illustrations of absolute truths. This tendency has been most prominent in those theologians who were strongly influenced by Hegel. It seems to me that Polanyi a-critically accepts this version of Christianity: Christianity is a reaching out beyond the bounds of reason to the absolute, which is God. One can see the influence of the old Platonic ideal here. Polanyi has been untrue here, I believe, to his own philosophy. While his philosophy of science is descriptive, his philosophy of religion is prescriptive. In a statement about conversion Polanyi, however, has this to say:

> 'Admittedly, religious conversion commits our whole person and changes our whole being in a way that an expansion of natural knowledge does not do. But once the dynamics of knowing are recognized as the dominant principle of knowledge, the difference appears only as one of degree' (Polanyi 1961, 244).

But if this is so, then religious conversion takes us across a heuristic gap, and after conversion we indwell a different interpretative framework. Consequently, we must interpret religious experience as an interplay of indwelling and breaking out. This is indeed the way Milavec interprets Polanyi. On the one hand, one cannot become a Christian without a period of 'submission to a master'. Milavec quotes St. Augustine who argues that 'every kind of scholastic discipline … demands a teacher or a master if it is to be acquired' and thus, with even more force, the 'divine oracles' within the Scriptures require a master if they are to 'refresh and to restore souls' (Milavec 2006, 471). Every Christian first needs to start with indwelling some Christian tradition. But equally essential to the Christian experience is that the believer breaks out of this tradition. Milavec mentions as a paradigm example of this Peter's vision on the roof at Joppa (Acts 10), and Martin Luther's 'conversion'. But, such experiences do not only accompany major doctrinal discoveries, they are part of every individual's experience. Milavec related:

> 'In my own life, I have known parallel experiences. It happens about every ten years. Everything is going smoothly when, suddenly, I am thrown off my horse. I doubt the worth of nearly everything I have come to be and to do in

the name of God, and I surrender to God Who knows me better than I know myself. The years following are spent integrating under God's guiding hand what I have freshly discovered' (Milavec 2006, 481).

6.4   Comment on Contemporary Trends in the Evangelical Christian Tradition

In the reformed/evangelical tradition the central focus of this breaking out is the Scriptures as the vehicle and the Spirit as the actor. In particular in the reformed tradition the Spirit by 'opening the Scriptures' to the believers challenges their worldview and doctrines (which are mere human interpretations of the truths of Scripture), ever leading them back to God's will. A reformed church is a church forever breaking out, *semper reformanda*. I believe this is what is at the bottom of the criticism of the *Gospel and Culture network* on the *Seeker Sensitive Church* movement. Eagle and Fast (2002, 5), accuse Seeker Sensitive Churches to be market-driven and obsessed with numbers, and quote Mark Baker, who in reference to 1 Cor 1: 22, says, 'Humans do not like ambiguity; therefore, as a human construct religion offers a package of information that removes doubt and ambiguity.' Eagle and Fast continue,

> 'In a similar way, the tight packaging and slick marketing of conservative evangelical theology, in seeker-driven churches, often tries to remove doubt and ambiguity, presenting instead a tidy, orderly religious package. And this package 'sells'; it offers 'signs' to counter doubters, and 'wisdom' to counter life's inherent ambiguities'

The 'missional churches', on the other hand are 'centered on the hope, the message, and the demonstration of the in-breaking reign of God in Jesus Christ'. They witness to 'God's fundamental commitment to bring transformation through relationship' (Eagle and Fast 2002, 5). Rick Warren, one of the leaders of the Seeker Sensitive Church movement, countered that there is no reason that both cannot function in one large church. I believe the problem can only be understood in terms of indwelling and breaking out. Seeker Sensitive Churches are evangelical churches that

as such indwell the evangelical tradition. Warren's best-seller *The Purpose Driven Life* is an excellent and well-readable survey of evangelical doctrine, but the doctrines expounded are no different from those defended in, say, 1900. Evangelical doctrine has indeed become a neat package of unchanging truths. There is no attempt to break out, to become relevant to contemporary society[115]. What characterizes such people as Tony Campolo, Philip Yancey, Rob Bell, and indeed Lesslie Newbigin, is that they break out of the evangelical framework into a new understanding of God.

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[115] This seems a strange thing to say, given the numerical success of Seeker Sensitive churches. However, it has been remarked often enough that the majority of the membership of evangelical churches comes from a relatively small strata of society. Those from both lower social strata, and those with an academic education are as a group not reached, because these churches do not speak their language.

Chapter 7

Two Applications of Polanyi's thoughts to Theology – Puddefoot and Newbigin

Abstract:

In this chapter we will look in some depth at two theologians who have applied Polanyi's theories to their thinking about faith. Puddefoot hones in on Polanyi's distinction between tacit and explicit knowledge and argues that rational argumentation, such as in theology or in the science-religion debate must necessarily fail, because much that is important for the believer is tacit (7.1.1). Puddefoot discusses whether this lays Polanyi open to the charge of subjectivism (7.1.2).

We will deal with Newbigin in a more extensive way as the latter more fully interacts with Polanyi. We will explore three areas where this interaction with Polanyi is prominent in Newbigin's thinking: his rejection of radical skepticism (7.2.1), his view of religious truth as primarily narrative (7.2.2), and his ideas on the role of the Christian community as the carrier of truth (7.2.3), as expressed in what he calls the doctrine of election (7.2.5). Although Newbigin agrees with Polanyi in his rejection of the fact/value dichotomy, like Polanyi, he identifies differences between scientific and religious knowing (7.2.4). Newbigin's starting point in Polanyi's epistemology leads him to see contextualization as the paradigm case of religious knowing (7.2.6). Finally we discuss a number of criticisms that have arisen with regards to Newbigin's use of Polanyi (7.2.7).

In this chapter we will look at two theologians who have applied Polanyi's philosophy on religion, ie, Puddefoot and Lesslie Newbigin. Both developed their thoughts in the 1980s. In either case I will point out the problem for the solution of which each author found Polanyi's thoughts illuminating. I will then comment on the way

Polanyi is seen as a ladder to re-expressing Christian faith in the context of the contemporary scientific milieu.

7.1 Puddefoot on Polanyi

Puddefoot, in his 1980 article 'Indwelling: Formal and Nonformal Elements in Faith and Life 'discusses the thoughts of Michael Polanyi within the context of the question how the Church identifies erroneous interpretations of the Christian Scriptures. Puddefoot argues that the implication of Polanyi's view of knowledge for our view of Scripture is that, as its authors formally expressed their non-formal (ie, subsidiary) understanding of the person and work of Christ, their words 'meant more than they were ever to know'. This richness of meaning of the words of the pioneers of faith is the result of the inevitable inadequacy of their own perception of the significance of their discovery, and of their expression of it. Interpretation aims to explore the meaning, both those meanings the author consciously intended, and those meanings he was not (fully) aware of. This interpretation takes place within the community of the Church, 'with its specialists, books, preachers and teachers, plus all its indescribable community aspects, which '... believes that in worship and prayer it has accessibility to the self-revelation of the *living* God' (Puddefoot, 1980, 38.

Puddefoot characterizes Scripture as the formalization of a perception of the reality the early believers indwelled, a reality in which God spoke and acted. The Biblical account therefore cannot be reduced to a series of formal statements which can then be criticized, but must first be integrated into its focal meaning. Only the believer, who is focused on the totality of the meaning of the Scriptures, can challenge the meaning of its component parts. Scriptural criticism, however, cannot *not* cause fragmentation, because it is exercised outside of the context of personal and communal communication[116]. Only in this interpretation will the texts come

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[116] This statement may be clarified if it is compared with Newbigin's statement (referred to later) that the conceptual system of a faith community can only be understood from within. This is the result of the incommensurability principle. Both Puddefoot and Polanyi argue the Scriptural criticism employs

alive and resonate. 'The reductionist biblical critic has made himself redundant and demonstrated his own folly by proving that the texts with which he has concerned himself are unworthy of the effort' (Puddefoot 1980, 33). He makes the same mistake as the failed mathematician, who can only conceive of mathematics as the application of a number of rules, but who does not indwell the symbols. He does not perceive the non-formal interpretative ground of the text: that element of the nature of Christian conviction that is so hard or impossible to put into words. The authority of a text comes from the 'continuous accrediting of it by a community of interpretation, the Church' (Puddefoot 1980, 34)[117]. The Biblical witness is thus a *necessary* but not a *sufficient* ingredient in the Christian gospel: the non-formal interpretative framework of the community of faith in accrediting Scripture cannot be set aside. This is 'the mistake of so much biblical criticism.'

7.1.1   The Charge of Subjectivism

This clears up any idea that the Biblical texts (or Christian doctrine for that matter), could be taken as pre-personal scientific statements or rival to science. But there is a difficulty with this view: if we admit that the relationship between concepts and our articulation of them cannot be fully formalized, we must accept that it is possible that on any single formal basis a number of different interpretative systems may be erected. It is not that a text has no correct interpretation, but that the text itself, the formal material, is insufficient to define it. Correct interpretation relies on qualities of a personal nature, qualities that we achieve by indwelling the ground, which gave

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the conceptual system of modernity to the study of Scripture and that this can only result in an understanding of Scripture from within a conceptual system that is alien to it. For instance, because modernism is atomistic, knowledge becomes essentially fragmented. The so-called 'New Quest for the Historical Jesus' however, has demonstrated that Scriptural criticism from within the faith community is possible. See for instance the work of NT Wright (1992) and Howard Marshall.

[117] Although there is no space here to discuss this fully, the question that may arise here is how to match this with the idea, held by the Church through the ages, that the authority of Scripture rests upon the fact that it is God who speaks in it. The answer must be in the doctrine of the Holy Spirit, God-in-the-world, who is both the divine Inspirer of Scripture, as well as the 'Author and Perfector' of our faith. This Spirit is intimately present in the life of this community. The Scriptural claims of an invasion of our everyday world by the supernatural, an invasion that could not fail to have consequences – consequences that ought to be able to be observed in the changed life of the community of believers – changes from Eros to Agape, from self-centeredness to self-sacrificing love.

rise to the text itself[118]. These qualities are what Polanyi referred to as the tacit component of our knowing. The consequence of this is that logical and impersonal arbitration, between different interpretations, is impossible: logical arbitration is insufficient as many of the qualities cannot be expressed in words; impersonal arbitration is insufficient because of the personal nature of the qualities. This raises the charge of subjectivism.

Polanyi countered this charge by stressing a number of strictly personal safeguards against subjectivism: a sense of integrity and an obligation to the truth as the man of integrity perceives it.[119] To this personal evaluation of someone's system of thought is then added a collective accrediting by the community of faith. All this stresses the impossibility of doing valid theology without believing: from the objectivist, detached standpoint Scripture is some form of discourse which necessarily must deny its character as the personal address of God to man in the Incarnation.

The Christian disciple must be both a learner and a teacher, and therefore faces both the problems of interpretation and of articulation. He will both fumble and pioneer. In all this he will need a non-formal (not rule-based) framework, guided and sustained through the community and authority of the Church. In theology, the temptation for every Christian is to claim authority for himself. In most cases the shared consensus of the community of faith is the only legitimate arbitrator between conflicting views, and the only authority that can legitimate innovations. The communal equivalents of integrity and obligations to truth 'depend crucially on the openness of the community in worship and prayer to the final criteria imposed by God Himself' (Puddefoot, 1980, 40)[120]. This accreditation takes the form of accepting the innovation as part of the legitimate language of theology.

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[118] Puddefoot would thus see the indwelling of the tradition as sufficient for a fusion of horizons in Gadamer's sense. However, this is belied by the facts: as was referred to in the historical survey, many evangelicals, though indwelling the tradition of evangelical Christianity, interpreted Scripture within an Enlightenment framework. Merely indwelling some Christian tradition is not sufficient for a fusion of horizons between the authors and readers of Scripture. For that it is of equal importance that the tradition envisages itself as a human tradition that must be correctable from the Scriptures, and commits itself to be an *ecclesia semper reformanda.*

[119] See my previous discussion in 5.1.1

[120] However, what then about the 'evangelical pope'?

7.1.2   Scientific Discovery as Model for Religious Faith

We can now explore how this approach fits in with our general explanation of science as Polanyi sees it. The scientific pioneer works at the boundaries of current knowledge. He often finds that his symbols and conceptual grasp begin to drift away from the conceptual system of his fellow scientists. When he makes a discovery he is likely to be the only person qualified to assess its value. His contemporaries may see the importance of this discovery, but – if they reject it – he alone is left to decide whether he should annul his findings, or persevere with them. In the latter case, he may be mistaken, but there is also the possibility that he is right and the majority is wrong. The theologian may find himself in this position as well – after all, Jesus Himself was rejected by the 'theologians' of His day.

What drives the pioneer on his quest is the nature of his discovery (Puddefoot, 1980, 42). A significant discovery is usually associated with the urge to share the newly-found knowledge. Its acceptance by its peers often depends on the question whether it 'resonates' in receiving minds. From the point of view of the pioneer his discovery has fused his mental visions together into a multi-dimensional whole. He cannot expect, however, for his discovery to 'resonate' in the mind of his contemporaries, as they might lack the new framework which renders the finding meaningful.

Applied to religion, this stresses the importance of allowing our children to grow up with the framework in which the facts of Christianity, including the confrontation with the person of Christ, make sense. Discipleship[121] is the attempt to transfer a multidimensional framework from one mind to another. In this transfer the personal encounter is more important than pure formalization, such as occurs when reading a study-book. Language without a non-formal interpretative framework is essentially one-dimensional, while 'the theological problem regarding language is that of saying many things at once' (Puddefoot, 1980, 43). God solves this problem in the

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[121] Discipleship is the term used, often by evangelical Christians, to refer to the acculturalization of new believers into the norms and values of the Christian belief system

Incarnation 'by addressing man personally, and living a life of perfect unity between outward form and inner conviction'[122].

While the scientific pioneer dwells in his area of interest, the disciple dwells in the person of his master, and the members of a religious community dwell in each other. To Polanyi indwelling means an 'entering into an intimate relationship with something or someone in which the whole life of the person is involved' (Puddefoot, 1980, 44). Indwelling in this latter context is thus akin to commitment and to love. It means a commitment to a future, which is beyond our understanding but to which we are nevertheless passionately devoted. This commitment causes a change in us.

But how far must we allow ourselves to be 'taken over' by a thought world before we may start to assess its validity? The answer is that we must ourselves be 'taken over' by the entire thought world, the 'finished product' before we can test its strength. Our responsibility as Christians is to be convinced to the roots of our being 'in order to eliminate as far as possible all adverse conscious expressions of our inmost feelings and doubts' (Puddefoot, 1980, 45).

The facts of Christianity fit into a framework. In order to obtain the framework we need the facts. However, in order to make sense of the facts we need the framework. A formal knowledge of Christianity, which remains formal, is susceptible to any attack that can destroy formal evidence. By enabling people to acquire the non-formal skills of the Christian life we provide them with an indelible character, with which they can never be separated from God's love.

In summary, Puddefoot reads Polanyi to say that in essence there is no difference between the personal encounter of a man with Christ and of a scientist with the universe, only one of gradation. Both are encounters in love, trust and obligation. Both answer the call 'to relinquish the freedom of the subjective person to believe as

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[122] Puddefoot's solution raises the question how He then solved this problem before the Incarnation, ie, in the Old Testament? We see here the influence of neo-orthodoxy, which aims to interpret the entirety of Scripture from its centre, the Incarnation. However, the Jesus event cannot be understood unless the Judeo-Christian tradition is indwelled, as the many references to the Old Testament in the Gospel writings suggest. Before the Incarnation Yahweh was present in the history of Israel. The many historical narratives in the Old Testament are powerful tools for conveying the multi-layered truths of their religious experience.

he likes, and the freedom of the objective person to believe at all, in favour of the responsible person to believe as he must' (Puddefoot, 1980, 47). Both must respond with an attempt to share their vision with others, despite the fact that it is indescribable. Through this sharing the scientist's or believer's own vision will be enriched by the vision of others, despite their ultimate inadequacy. In all this, the Christian ultimately relies on Christ, who said, 'if you dwell in Me, then you are truly My disciples, and you will know the truth and the truth will set you free' (John 8, 32).

7.2   Newbigin's use of Polanyi in his theological epistemology

Our second example of a theologian who used Polanyi, in his understanding of the nature of religious truth claims, was Lesslie Newbigin. Newbigin, closely involved in the ecumenical movement, both locally and in India, and worldwide as secretary to the Mission Committee of the World Council of Churches (WCC) searched for a theoretical underpinning of religious beliefs that would allow religious discourse a place in the public arena. Hunsberger believed that he not only was successful in this, but that he had provided Christians with a new apologetic:

> 'Newbigin's use of Polanyi's approach, most developed in the first five chapters of *The Gospel in a Pluralist Society*, provides an apologetic framework to undergird the faith of believing people, something that is essential for the presence of confident witness. I have watched as students have read the 65 pages of those chapters and found themselves liberated to believe – to really believe – that this good news is true and can be held with assurance. The preacher today is in the business of securing ways for people to see how they can believe. What I have called elsewhere Newbigin's 'postmodern apologetic' is … essential for a context where Christian faith is no longer merely what polite citizens are expected to believe' (Hunsberger, 1998, 11-12).

What follows in this chapter is a discussion of how Newbigin applied Polanyi's work in these first five chapters of *The Gospel in a Pluralist Society* (GPS) and – to a lesser degree - his other work.

The basic question that Newbigin asked himself was,

> 'How … does one preach the gospel as truth, truth which is not domesticated within the assumptions of modern thought but which challenges these assumptions and calls for their revision' (Newbigin, 1989)[123].

The assumption of modern thought that must be challenged is its dichotomy between public facts and private values, which delegates religion to the area of private opinion with no relevance for the public arena. Newbigin discusses this within the context of the aversion modernism has against what it perceives as the dogmatism of religion. After an analysis of what the dogmatic basis of Christianity entails, he uses Polanyi's insights that authoritatively given, and a-critically accepted, truth claims exist in every conceptual system. He then gives a detailed analysis of the Christian conceptual system. We will discuss the following emphases in Newbigin's thoughts: indwelling or becoming part of the Christian story (7.2.2); the relationship between tradition and rationality (7.2.3); similarities and differences between scientific discovery and religious revelation (7.2.4); the doctrine of election as it follows from revelation within human history (7.2.5); and the contextualization as the paradigm example of religious knowing (7.2.6).

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[123]Newbigin, borrowing a term from the sociologist Peter Berger, sees such assumptions embedded in 'plausibility structures', which are identical with what Puddefoot calls 'frameworks' or in contemporary philosophy have been referred to as conceptual systems.

7.2.1   The Problems: Dogma and Doubt in a Pluralist Culture

Chapter 1 of Newbigin's *The Gospel in a Pluralist Society* (1989) introduces Newbigin's assessment of the basic problem that faces Christians desiring to contribute to public debate as believers, who subject themselves under the authority of the Scriptures. Christianity, Newbigin argues, began with a dogma, something authoritatively given[124]. There have been many who have suggested that Christianity as a religion started with the writings of the apostle Paul. Newbigin rejects this suggestion. The apostle Paul presented himself not as the founder of a new religion, or even as the author of a new theological school within Judaism, but as a messenger commissioned to announce a new fact – 'namely that in the ministry, death and resurrection of Jesus, God has acted decisively to reveal and effect His purpose of redemption for the world.' This fact is regarded as of decisive importance for all people and cultures everywhere. Paul's message is a proclamation that invites belief. It cannot be proven by reference to some other experience, but 'it is that by the acceptance of which all human experience can be rightly understood.' It 'claims to be the truth, not just a possible option. It is the rock which must either become the foundation of all knowing and doing, or else the stone on which one stumbles and falls to disaster'(Newbigin 1989, 6. also 2003, 48)[125]. It is not difficult to see why Polanyi's philosophy appealed to Newbigin. Polanyi had argued that you cannot be a scientist without first a-critically accepting the foundational axioms of science; only

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[124] Newbigin's wording is somewhat confusing here, as it may give the suggestion that he invests Christian doctrine (ie, what Karl Barth calls the proclamation of the Church) with final authority. From what follows it should become clear that this is not compatible with the gist of his entire theology: the final authority is vested in the person of Jesus Christ, as witnessed to in the Scriptures and proclaimed by the Church. Newbigin uses the word rather in the sense of 'dogmatic', authoritatively given. Hence the qualification of dogma as something authoritatively given. That which is authoritatively given is 'that in the ministry, death and resurrection of Jesus, God has acted decisively to reveal and effect His purpose of redemption for the world.'
Newbigin (1994, 74) says a few years later: 'If we are to escape the ideology of the Enlightenment without falling into the errors of the Corpus Christianum, we must recover a doctrine of freedom of thought and conscience that is founded not on the ideology of the Enlightenment but on the Gospel. At this point I think I must admit that my use of the word *dogma* … was perhaps a tactical mistake. It was intended to shock people into recognizing the fact that we all operate with dogmas. The difference is whether we recognize that we do.'
[125] See also Webster, 1998, who makes a very similar argument to Newbigin. He does not mention Newbigin once, but has numerous references to Karl Barth, illustrating the similarity between Newbigin's theology and Barth's – probably a reflection of the influence of Barth on theologians like Newbigin.

after doing so 'all human experience will be rightly understood'. Newbigin observes that the Christianity of Paul makes a similar claim. As will be seen later, that leads him to say that religion can only be understood on its own terms, and not on the terms of a competing conceptual system such as science.

Krish Kandiah (2007) has, I think rightly, argued that fundamental to the entire theology of Newbigin is the concept of revelation. He maintains that his interpretation of election (which Hunsberger sees as central to Newbigin's thoughts) directly results from his view of revelation as historical, while his view on the church flows forth from the fact that he sees the church as the carrier of the revelation through the gospel. This revelation has come to us through the Scriptures as a narrative history of God's great acts and His words as spoken through the ancient prophets. The truth which is given, is thus not in the form of a set of timeless metaphysical propositions; it is a story, of which we have become part; a story also which is not finished, but in which we are still awaiting the end in which all will become clear[126].

The people who have been entrusted with this message cannot demonstrate its truth on the basis of some other alleged certainties. They can only live by it and announce it. The dogma calls for an assent of faith. This implies a rejection of the validity of natural theology[127]. Newbigin argues that no anchor point can be found to justify Christianity outside of the Christian narrative, for the accepting of such an anchor point means that Christianity would be subjected to the conceptual system from within which such an anchor point would be chosen.

Such a demand to accept an authoritative dogma on faith goes against the critical spirit of the age. In our culture the mark of a mature person is to subject every truth

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[126] Cf. NT Wright's well-known image of the unfinished Shakespearean play (1991).

[127] Natural theology is theology based on reason alone (Mautner, 2000). Natural theology is opposed to supernatural theology or revealed religion. This is what Newbigin rejects on the basis of the incommensurability principle. What he does not reject is that a believer might employ rational argument to attain a deeper understanding of the axioms of his faith, or in order to try and convince those who indwell a rival conceptual framework of the truth of the Christian claims.

to the critical scrutiny of reason[128]. Must we not accept that the truth is larger, richer and more complex than can be contained in any one religious or cultural tradition? Only the open mind of a humble seeker can hope to reach the truth, and dogma – so it is said – is the enemy of an open mind (See also Rupp, 1989, 71). Jürgen Moltmann argued that in late-modern society people could believe what they want, but they may no longer claim that belief to mediate absolute truth. Marcuse has called this the 'repressive tolerance' of Western consumer society: tolerant in allowing everything as subjective possibility, repressive in respect of skepticism about any objective reality being adequately mediated by religious symbols. He then remarks that such consumerism 'demands to be universally accepted in the same way as did Christian faith in the heyday of the Christian empire …' (Moltmann 2002, 152, see also Griffiths 2002, 158).

Newbigin in response to this situation remarks that late modernists are in fact only pluralists in the world of 'values' and 'beliefs', where in the world of 'facts' to have an open mind would not be tolerated. The former we consider a matter of personal decision, the latter of public knowledge. In English schools two stories are told about the origin and meaning of the world. The first is that of evolution, civilization and progress. The second is that of creation, fall and redemption. The first story is told as a fact, the other – 'if it is told at all' – as the belief of 'certain people' (Newbigin 1989, 15-16). Newbigin points out that at least in one court case it was successfully argued that the first story is 'really a religion, namely secular humanism', which is a total view of human nature and destiny in which one may or may not believe.

This raises the question whether we can draw a boundary between what we know and what we believe (Newbigin, 1989, 27). The answer that has been given in modern times is through a programme of systematic skepticism[129], in which every supposed truth was exposed to the acids of critical doubt, after which only what survives was retained. The rest was thrown away. It was considered that this was the

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[128] What Newbigin refers to here is not skepticism (the view that 'nothing can be known with certainty, and at best there can only be some private probable opinion (Mautner), but rather the demand that we only should hold on to those beliefs for which we can provide empirical justification, a position dating back to John Locke.

[129] The use of the term skepticism in this context is wrong, see footnote 9

only safe path from the darkness of superstition, dogma and tradition.[130] Newbigin counters this as follows:

1. Every kind of systematic thought has some starting point, which is authoritatively given, in other words, 'dogmatic'. No coherent thought is possible without presuppositions[131].

2. It is the reigning 'plausibility structures' that will determine which patterns of belief and practice will be acceptable to a certain community. A plausibility structure is conditioned by the intellectual tradition within which it originated. A plausibility structure dominated by the methods of natural science will find it unreasonable to explain things in terms of personal will and purpose.[132] But if there is a God who has revealed His purpose to human beings, then we must respond to His revelation by relating it to all other experience, and this can only

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[130] This, however, is disputed by Patterson (2004) with regards to the American mind. In what he calls American classroom relativism (ACR), no claim to truth is accepted, be it moral or scientific. He observes, however, that it is therefore 'directly at odds with the understanding of truth embodied in the unreflective practice of deploying the word *is true* to concede, contrast, or endorse claims already made. According to common and unreflective practice a claim, and the claim of it that it is true, are always justified or not together; according to ACR, not only are they not justified together, but the claim of a claim that it is true is never justified … because to claim otherwise would be the arrogance of taking oneself to possess the view from nowhere, to be undeceived, impartial, and hence infallible' (p38). Patterson sees a direct link between ACR and the 'failure of American policy to live up to the ideals of pluralism and tolerance on the international stage', and the distinction between American ideals and the persistence of racism, sexism and homophobia in America' For ACR makes it impossible to claim universality for what one sees as morally right'.

[131] Newbigin is rather simplistic here, and Polanyi's thought on this point is much richer. According to the latter the presuppositions and axioms of scientific theories are only formulated *a posteriori*, when the heuristic jump has been made, the intuition had born fruit and the theorist has now time to reflect upon the implications of the new vision of the world. What attracted the scientist to the discovery was a mere vision, and apprehension of things on the other side. The mere fact that a heuristic jump is necessary implies that the presuppositions and axioms of the new vision cannot be reasoned *a priori*. Something very similar happens when a person converts to a new religion. Christians in this respect talk about 'finding Jesus', 'seeing the beautic vision' - not about assent to the axioms of Christianity. This implies that much that attracts the new convert to Christianity – as Puddefoot argued – is non-formal (tacit) and cannot be expressed in words or reduced to presuppositions[131]. It is much more fruitful to think of presuppositions as certainties in Wittgenstein's sense: as basic propositions that one needs to assent to in order to remain a member of a certain community of meaning. It might indeed be argued that whether one may call him/herself a Christian depends to a large extent on the non-formal elements of one's religious experience, amongst Christians often referred to as one's 'personal relationship with Christ', while what denominational allegiance one might have (Catholic, Charismatic, Reformed, Baptist, African independent) is - at least to some extent - determined by such certainties. At the same time, and here is where Newbigin is right, it is these denominations that are the communities of meaning within Christianity. It is within these denominations that certain plausibility structures reign.

[132] This question is at the bottom of the current debate around Richard Dawkin's book *The God Delusion*. See for instance, the arguments developed in Keith Ward's *Why There Almost Certainly is a God.* Lion Books, 2008.

be done in 'the tradition of a community which cherishes and lives by the story of God's saving acts' (Newbigin, 1989, 9). The term plausibility structure is Peter Berger's. He defined the term as a 'social structure of ideas and practices that create the conditions determining what beliefs are plausible within the society in question' (Newbigin, 1986, 102).

3. There is an 'admirable air of humility' about a statement that the truth is greater than any person or religious tradition can grasp. But how does one know that the truth is greater than a particular affirmation of it? To state this supposes a privileged access to reality (Barth 1956, I, 17.2). In a pluralist society any confident statement of ultimate belief, and claim to announce the truth about God and His purpose for the world, is liable to be dismissed as ignorant, arrogant and dogmatic. However, such criticism is itself open to radical criticism. That this is not seen is because it is part of the reigning plausibility structure of such a society.

4. We are not to defend the gospel by domesticating it within the reigning plausibility structure. The gospel rather puts reality in a new light, in a new perspective. Thus the story of the first Easter cannot be made acceptable to contemporary thought by explaining the accounts of the empty tomb and the appearances of the risen Jesus within a contemporary conceptual system, for instance as purely psychological visions in the minds of the disciples. The story of the empty tomb cannot be made to fit in any worldview except the one of which it is the starting point. 'That is, indeed, the whole point. What happened that day is, according to the Christian tradition, only to be understood by analogy with what happened on the day the cosmos came into being. It is a boundary event … It is the beginning of a new creation – as mysterious to human reason as creation itself. But, and this is the whole point, accepted in faith it becomes the starting point for a whole new way of understanding our human experience as a whole' (Newbigin, 1989, 11-12 cf NT Wright 1992A, 85)[133].

Let me illustrate this by Paul's history, as recorded in the Acts of the apostles, and in his own words in his letters. In the minds of his contemporaries, Jesus,

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[133] Cf, for instance Paul's talk about Jesus as the 'second Adam' in Romans 5 and 1 Cor 15

however politically expedient his execution might have been, was condemned on the grounds of his claim to be God, a capital offense according to God's own law, as revealed by Moses. Therefore, if the reports of His resurrection were true – and we must give credit to the reports that Paul was initially extremely skeptical about these, to the point of considering them dangerous delusions – it would have enormous consequences. For a resurrection - which could only be the work of God - would imply Yahweh's 'stamp of approval' on Jesus, it would indeed imply that in Jesus, God had lived on earth. When a vision on the road to Damascus turned Paul from a skeptic into a believer he would spend the rest of his life expounding on these very consequences. For Paul it implied a radical reworking of Judaism, where in Galatians he would call the Torah and circumcision, two cornerstones of the Jewish faith, evil and bondage (Michael Grant, 2000, particularly chapter III).

5. Of this truth we are witnesses, but this does not mean that we are possessors of all truth, rather that we are 'placed on a path by following which we are led towards the truth'. No human image or concept can grasp the full reality of God. Christians are therefore learners to the end of their days. This learning takes place within an authoritative tradition: that which stems from God's decisive acts in Jesus Christ (CF Kimball, 2002, 68ff).

Newbigin here uses Polanyi's argument that radical doubt, as required by the modernist's systematic 'skepticism', is impossible: all thought takes place within a conceptual system or a plausibility structure where at any given time only little is doubted and much is uncritically accepted as true. Furthermore, part of that which is uncritically accepted as true is non-formal (tacit) knowledge and this part cannot be subjected to critical doubt. We acquire such conceptual systems or plausibility structures within a tradition of knowing, and for Christians their traditions of knowing are those that start with the event of the Resurrection, the event that 'proved' the man Jesus of Nazareth to be Yahweh[134]. As with each conceptual

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[134] Of course this proof only works from within an earlier conceptual system, in this case Judaism. The resurrection of Asclepius and his elevation to the status of demon in Hesiod's myth does not have similar consequences for ancient Greek religion. Zeus was impulsive and whimsical and could often

system, the Christian supplies those that indwell it with its own unique vision of reality. Newbigin's thought here is very similar to that of the evangelical apologists of Fuller College (Marsden, 1987), and of the Neo-reformed school of philosophy as developed at the Free University of Amsterdam.

7.2.2   Indwelling the Christian narrative

Newbigin's theology is thus a narrative theology, where truth is mediated primarily (albeit not solely) through the story of God's great deeds and words. We will now elaborate further on this important element of Newbigin's theology.

Scripture in the Enlightenment culture was seen in the context of the split between public truth and private opinion, resulting in the controversy between those who wished to affirm biblical authority by defending the factual accuracy of everything it contains, and those who see the biblical material as symbolic of religious experience. Those opting for the first choice found themselves soon on a collision course with the findings of science; those who opted for the second soon had to face the fact that the religious experience of the Christian is far from unique. As an alternative view Newbigin refers to George Lindbeck's 'cultural-linguistic model', as exposed in his *The Nature of Christian Doctrine.* Doctrine, according to Lindberg, is not so much something we look at, as something we look through in order to understand the world[135]. Of course, this is very similar to saying that we indwell doctrine. Scripture, in Lindberg's words, 'functions as the 'cultural-linguistic framework' within which the Christian life is lived and Christian doctrine developed' (Newbigin, 1994, p 84-85). The Bible is a narrative that structures human experience and understanding. It is a story which claims to be *the* story, the true story both of the cosmos and of human life. Newbigin:

(be brought to) chance his mind. Yahweh would never resurrect a man condemned for blasphemy unless He wanted to vindicate him. It should be noted, though, that the heuristic jump initiated by the resurrection at the same time changed the meaning of Yahweh, Who now no longer is the One God, but the father of Jesus Christ and part of the Trinity.

[135] Newbigin quotes phrases such as 'myths or narratives … which structure human experience and understanding of self and world' and 'an idiom that makes possible the description of reality' (1994, 83)

'After one has done all the work that can be done and has to be done to analyze its structures and trace the origins of its different parts, it is in its total canonical structure a story that provides the clue to the meaning of cosmic and human history in the story of a particular people and of a particular man among that people' (Newbigin, 1994, 85).

Every telling of a story is a selection of a minute fraction of the available records and memories, based on a particular belief about the meaning of history. The Bible, and in particular the New Testament, tells the story in the belief that the point of the entire story has been made in the doings and sufferings and triumph of the man Jesus. The Bible functions properly in the life of the Church if it functions as the story through which we understand and deal with the world. That means that the Bible cannot function with any authority except through the lives of those whose story it is, those who indwell the story. Therefore we cannot speak of biblical authority without speaking of tradition.

Hunsberger (1998), summarizes Newbigin's thoughts at this point as follows: 'Addressing the question of authority, and especially what authority the Bible has in the encounter of the Gospel with modern Western culture (Newbigin), affirms that 'the Bible functions as authority only within a community that is committed to faith and obedience', The hermeneutic circle operating within the community means that 'tradition and Scripture are in a constantly developing reciprocal relationship.' Therefore, 'it is not the Bible by itself but the church confessing the mystery of faith that is spoken of as the pillar and bulwark of truth' (1 Tim 3: 15-16).

7.2.3   Christian faith and Scientific method – The roles of tradition and rationality

Scientists become part of the scientific community through a long process of apprenticeship. Like the scientific community a Christian community, such as a denomination or a local congregation, embodies a tradition which claims authority: a tradition with certain ways of looking at things, and certain models for interpreting experience. The Christian tradition is more comprehensive than the scientific

tradition, because it includes questions about the ultimate meaning and purpose of things and of human life – questions which modern science eliminates as a matter of methodology.

Like the scientist the Christian has to learn to indwell the tradition, and to do so he must trust the tradition and the teacher as an authorized interpreter of it. A child will simply have to accept what it is told on authority of its teachers or parents. But if the latter are wise, they will not rest until the child has reached the point when it will say, 'Now I can see it for myself. Now I know the Lord Jesus Christ as my personal Lord and Saviour.' And this knowing is not a pure intellectual knowing, it is a personal commitment.'[136] However, on the other hand, this faith is not subjective, but held with 'universal intent': if it is the truth, it must be true for all. It needs therefore to be publicly affirmed and debated (Newbigin, 1989, 50, cf. Rupp 1989, 6-7). It is public truth. This is to a large extent similar to what happens in the scientific community. There are differences, however: the tradition of the Christian community is one of witness to the action of God in history, an action that reveals and affects the purposes of the Creator; it is also a story which is still continuing.

All reasoning depends on and is embodied in a tradition (Newbigin, 1989, 53 ff):

1. We cannot reason but by using language. Language embodies the way in which a community has learned to grasp its experience in a coherent way. While we learn the language from our parents and teachers we are being introduced into the tradition.

2. We learn to use our reasoning powers by entering into the experiences, the discoveries, the debates and the disagreements of those who have gone before us – and these may seem meaningless and futile to those living in a totally different tradition. A tradition of reasoning is thus never static.

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[136]Newbigin sees conversion as threefold. Conversion means 'being turned around in order to recognize and participate in the dawning reality of God's reign. But this inward turning immediately and intrinsically involves both a pattern of conduct and a visible companionship. It involves membership in a community and a decision to act in certain ways.' For Newbigin, conversion has mental, ethical and communal dimensions.' Newbigin, 1986.

3. The tradition is never merely intellectual, but is loosely tied up with its social, political, economic, military and cultural development. It is embodied in the total life of a community. There is a continuing reciprocal relation of challenge and response in which a society, whose tradition is alive, vigorously responds to and seeks to master its circumstances.

Does this way of understanding rationality, however, not lead to complete relativism? In order to counter this objection Newbigin makes use of an argument made by Alasdair MacIntyre:

1. All traditions of rational discourse are continually changing in an effort to make sense of experience. Old formulations and concepts are questioned as being inadequate for the realities which the community faces. Sometimes a large area of the tradition is felt to be inadequate and replaced in a paradigm shift. The fact that this happens shows that although rationality is exercised within a tradition, the tradition is not ultimate; it is subject to the test of adequacy to the realities which it seeks to grasp. Traditions can be judged and compared in respect to their adequacy 'of making sense of human experience and of coping with the world in the light of what sense one can make of it' (Newbigin 1994, 91 ff).

   Newbigin points to the parallel with Thomas Kuhn's distinction between 'normal science' and the experience of 'paradigm shift'. In the latter a way of seeing things is proposed that 'makes sense' in a more adequate way than the previously accepted way. As Kuhn shows, there is no overarching logical system that can justify the switch from one vision to the other; it is a kind of conversion to a different way of seeing things that always needs new language. The only test is the adequacy to the reality that has to be understood and coped with. The new paradigm cannot demonstrate its 'reasonableness' in terms of the old. But the success of the new paradigm will depend on the vigour and competence of those who have committed themselves to work with it.

2. Traditions of rationality are embodied in languages. A rival tradition cannot become a serious threat to the adherents of a reigning tradition unless they

are able to learn the language of the rival tradition. However, the person who has mastered a 'second first language', so that he indwells this language as he does his own, is able to enter into an internal dialogue around the question, 'Which of the two worldviews and rationalities is more adequate for grasping and coping with reality with which all human beings are faced?' This is a dialogue about truth, in which two traditions of rationality are compared. Even though the two ways of reasoning cannot be mutually translated except to a limited degree, that does not mean that their adequacy to enable human beings to know and cope with reality, cannot be compared. However, he cannot elevate himself above the two rival traditions in order to give a neutral assessment of both. In making his critical assessment of both traditions he will have to make use of 'truths' as held by one of the traditions.

3. The relativist's claim that, since all reasoning is embodied in a particular social context, no claim to know the truth can be sustained, is of course in its turn a claim to know something about reality. The social context in which this claim can be formulated is that of the cosmopolitan world in which individuals live a rootless existence and are without a firm and stable social tradition. The availability of translations of the literature of all cultures in English creates the illusion of having an overview of all these different traditions without having had the actual experience of seeing the world through any of them.

Every exercise of reason thus depends upon a social and linguistic tradition, which is something which has the contingent, accidental character of history. The gulf between the accidents of history and the universal truths (Lessing), disappears. There are no truths except those that developed in an historical tradition. The reasoning that forms the texture of Christian theology arises out of the historical happenings which form the subject matter of the biblical record. Yet, 'the happenedness, the particularity, the contingency of these events, and the consequent particularity of the Christian Church as one community, among the many

human communities, does not invalidate the universal claim which its rational activities make and must make' (Newbigin, 1989, p 58).

7.2.4 Discovery versus Revelation

Polanyi speaks about the imaginative leap across the heuristic gap. There is some analogy between this leap and the disclosure to those who were witnesses of or participants in the events which are related in the Bible. 'Events and experience disclose a deeper meaning than first appeared. 'Surely God is in this place and I knew it not.' A bush in the desert becomes the place where the lonely exile finds himself met and challenged by a living Presence. 'Who do you say that I am?' 'You are the Christ' (Newbigin, 1989, 59).

Yet, there is a difference. The scientific pioneer will say 'I have brought to light'. The prophet, however says, 'God has spoken'[137]. We speak of revelation rather than of

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[137] DG Moses (Discussed in Selvanayagam 1999, p 39 ff), speaks here about different truths. He writes: Truth will not mean the same identical thing in the different realms. In other words, if reality is not a static homogeneity, expressing itself in a monotonous identity in every one of its parts, but a dynamic heterogeneity manifesting itself in different ways in different orders, then it will follow that the truth about reality will be different according as it refers to one or other aspect of it. What is true in one level or aspect or department of reality need not be true in another level or aspect, and the fact that it is different will arise as a natural consequence of its different relevance. So that we seem to be justified in our assumption that there can be different species of truth'. Moses then goes on to differentiate four types of truth:

- Philosophical truth: 'an intellectual comprehension of the universe, the result of an attempt to think things through'. 'Truth in philosophy is the logical, conceptual exploration of meaning throughout the whole of reality'. Philosophy takes the viewpoint of 'the objective observer, the impartial spectator' Philosophical truth is thus 'logical, abstract and general.'
- Religious truth: chief concern is to enter into a practical relation with the mystery that surrounds man; not an intellectual formulation of the mystery, but a statement of the practical significance it has for one's life. Truth in religion is 'the discovery of a significance in reality which demands worship', it asks 'for commitment and a complete re-orientation of one's life. It is discovered in an attitude of participation and not of contemplation.' Religious truth is therefore 'concrete and metaphorical' and personal.
- Artistic truth has much in common with religious truth. Both are interested in the individual, in the world of values and appreciations, both refer to 'something metaphysical, something in the eternal nature of things', they have something to say about the inner reality and significance of things, and both use the same language. The language of poetry is most conducive to the expression of religious truth. However, there is one fundamental difference: artistic truth is the result of imaginative contemplation, religious truth of active commitment of the individual will to the universal will.
- Scientific truth is concerned with quantitative perception, selective in character, referring to well-defined aspects of reality, it aims at verification with regard to particular hypotheses.

discovery. This does not imply that reason is left behind. The disclosure to Moses of a personal calling at the burning bush 'becomes the starting point of a tradition of reasoning in which the significance of (this) disclosure is explored, developed, tested against new experience, and extended into further areas of thought'. What is the difference between these two traditions, that of science and that of revelation? Following Martin Buber, Newbigin identifies the first tradition, the one of scientific discovery with the I-It relation, the tradition of autonomous reason, reason which is in control, which can say 'I have discovered'. It is the tradition where I decide which questions to ask, where I analyze and dissect, where I am sovereign.

The other tradition is the one of the I-Thou, where I abandon the role of sovereign autonomy and enter into a trusting and listening relationship. Of course, I still will be a rational person in this second tradition. But now reason has become the servant of a listening and trusting openness instead of being the servant of a masterful autonomy. In fact, as Bonhoeffer points out, the reversal goes even further: in this relationship Jesus calls men to follow Him, not as a teacher, but as the Christ, the Incarnate Son of God. This speaks of absolute authority, and the only appropriate answer is immediate obedience. For the disciples such as Levi, this obedience consists of following, 'running behind' Jesus, which includes leaving the fishing net, the tax boot, leaving the old life behind (Bonhoeffer 1995, 57ff)[138].

> The aim of science is 'to arrive at ever wider generalizations so as to include an ever increasing number of facts observed.'

Moses' concept of different truths seems to be an ontological one, based on his beliefs in different realities. I must disagree, however. I believe that the difference between for instance scientific and religious truth must be purely epistemological, it is paradox in our understanding of reality. Taking the wave/particular duality of light as my paradigm for such paradoxes, I think it is nonsense to assume that there is a duality in the nature of light itself. There is only one entity that has the nature of light, which behaves under circumstances in ways that can best be described in terms of particle physics, and under different circumstances in a manner that is best described in terms of wave theory. Neither do we posses two organs, called mind and brain. Or, to take an example from theology, I believe that the doctrine of the two natures of Christ is a wrong formulation: Jesus has one nature, which is both completely human and completely divine. Thus I do think that there is a scientific reality and a religious reality, but they are paradoxical ways of expressing the same reality.

Selvanayagam remarks (p 58), that DG Moses was 'mistaken in his views that unlike in science, philosophy and art there is commitment only in religion, for in any field the sincere desire for knowledge requires serious engagement and commitment.' He refers in this context to Kuhn. More so than Kuhn, this is what Polanyi argued.

[138] It should be noted that Polanyi also introduced Buber's I-Thou relation into his understanding of religion. See Polanyi, 1961, p 237-238.

This does not mean that there is not a kind of knowledge that is unavailable in an I-it tradition. Newbigin recognizes that there must be such things as 'natural theology' if God has created all things and has 'never left Himself without witness in the mind and conscience of any people' (Newbigin, 1989, 61). However, there is a radical discontinuity between such knowledge and knowing a person that we trust and know personally. In fact, the first kind of analytical knowledge could only lead us away from knowing the person. Personal knowledge comes only if we abandon the sovereign claims of autonomous reason, the claim to know the other person apart from his self-communication in speech and act and gesture. Natural theology in Newbigin's books is not a step on the way towards a theology which takes God's self-revelation as its starting point[139].

The possibility of knowing God is actualized in the fact that God reveals Himself. As Barth says, it is in the actual meeting of God with us that we come to know that 'man is capable of distinguishing Him from himself and vice versa: that he can recognize His divine Being as such and His word and His will[140]. This tradition of reason, which takes as its starting point a moment of divine self-revelation, will maintain not a 'we have discovered' but a 'God has spoken'. It may of course be possible that a rival tradition may want to translate the 'God has spoken' in terms of discovery, and say 'Moses had a religious experience'. But then the lines are drawn for a dialogue between two rival traditions of rationality.

We may compare this with a naïve view of religious experience, as it is defended by William Alston (1995). Alston defines religious experience as 'God representing Himself to someone who is directly aware of Him'. He gives the following paradigm example: 'There was no sensible vision, but the room was filled by a Presence which in a strange way was both about me and within me. I was overwhelmingly possessed

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[139] This requires some clarification in view of the former statement that Newbigin rejects natural theology. What Newbigin rejects is what has been defined earlier, the notion that religion can be logically deduced by the unaided efforts of human reason. At best natural theology can provide knowledge about God, never knowledge of God: the latter knowledge depends on the self-disclosure of the personal God. Once this self-disclosure is embraced and the resulting framework indwelled, rational reflection within this framework is possible, and indeed what Newbigin himself has been engaged in all along.

[140] Quoted in Newbigin, 1989, p 67.

by someone who was not myself, and yet I felt it was more myself than I had ever been before' (van Woudenberg, 1994, 118). Alston then rejects the 'conceptualist position', which states that 'all cognition is mediated by concepts, judgments and interpretations' – the view that whatever we experience we experience as 'something'. Alston rejects this on the basis of his view that in mystical experience God presents Himself directly (Alston holds uncritically to a correspondence theory of truth), and is not simply part of the explanation of a subjective feeling. It seems to me that Alston rejects the conceptualist position on an extreme reading of it, which is not defined by that defended by Newbigin. Van Woudenberg makes a similar point in his discussion of Alston. I would venture to say that most experiences of God that Christians have are everyday experiences interpreted within a conceptual framework, formed by Scripture, while only occasionally people are given experiences of God which are of the paradigm kind as described above. These however, are life-changing, and tend to cause a crossing of a 'heuristic gap' (van Woudenberg 1994, 123).

7.2.5   The Logic of Election

No overview of the total human situation can provide authentic knowledge of the purpose of God. General revelation cannot do so: 'There is no way in which one could proceed from some sort of disembodied rationality to the answering of the question. We have no alternative but to begin with one specific community' (Newbigin 1989, 74)[141]. This is not only true for Christianity, but for every tradition of rationality. It is what Newbigin refers to as 'the logic of election' (Newbigin, 1989, 80).

The Christian tradition of rationality takes as its starting point not some alleged self-evident truth, but the self-revelation of God in history – in a series of happenings in the world of secular events. Chief Albert Luthuli, speaking in the context of the claims of the Apartheid church to voice the final word of God remarked, 'But even if

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[141] Newbigin's thought here has a parallel in Barth's talk about 'the witnesses', Barth, 1963, 27 ff.

we were Christian and civilized, its values would not have been invented by white men. The Christian faith sprang from Asia Minor, and to this day it speaks with a Semitic voice. Western civilization is only partly Western. It embraces the contribution of many lands and many races. It is the outcome of interaction, not of apartheid. It is an inheritance, something received to be handed on, not a white preserve' (Luthuli, 1982, 43).

But if religion is culturally mediated, what stops one from radicalizing this statement and saying that it is merely a cultural construct as the New Humanists, such as Richard Dawkins and Daniel Dennett, claim? The solution proposed by Schleiermacher in the nineteenth century, who pointed to religious experience as the unassailable kernel of religion, is no longer convincing. Religious experience is only unassailable in itself if religious experience is purely subjective. But the latter is undesirable, for it deprives us of the ability to reject evil belief systems. Clearly we do not want to have to end up in the situation where we have to accept any belief system, including Nazism or Apartheid, merely because someone sincerely believes it to be true. This implies that religious experience alone is not sufficient as a ground for religion – of equal importance is the content of this experience: what is it that is experienced by the believer? Which brings us straight back to the question of justification. If religion is culturally mediated how do believers in new cultures justify their faith? Or, to state this in Polanyian terms, what are their reasons to make the heuristic jump into their religion, the reasons for their conversion? These reasons must be relevant for each cultural and historical situation. The new believer cannot rely on answers given in the past. Religion needs to come alive in each new culture, and therefore there is the need for each culture to reformulate religious knowledge in the context of their own culture. This is implied in what Newbigin refers to as the logic of election.

The revelation always came to a people living in a particular context, and asked for a particular response within this context. The community that responded to the revelation had to make sense of it in the ever changing circumstances of their ongoing history, and this continuous re-approaching and re-interpreting of the

revelation was a test, whether the new challenges could be understood within the terms of the original revelation. 'Continually through the centuries the community seeks to find coherence, meaning and hope in the events, sometimes apparently meaningless and chaotic events, through which it lives' (Newbigin 1989, 63).

The argument here, like that in the case of the justification of scientific method, is circular. The believer starts with the assumption that faith is rational, that there is a coherent purpose. The struggle is to prove that this faith is justified in the face of apparently purposeless circumstances, which call it into question. As Hunsberger maintains, the task is to prove that 'the alternate 'rational tradition' borne by the Christian community can be understood to be a credible 'wider rationality' than that offered by the reigning plausibility structure of the culture. A sense of the ways we know gives rise to new ways of believing and witnessing' (Hunsberger, 1996).

The Christian tradition affirms that God has made His mind and purpose known to some people through some (not all) events in history. This affirmation is a scandal – the scandal of particularity (cf Schwobel, 2002, 34ff). It is associated with the religious difficulty of believing in a God whose ways appear arbitrary and irrational, and with the philosophical difficulty of assigning meaning to the very idea of God acting in history if His actions are defined in this way.

This being part of a tradition implies that there is continuity with what went before. The Torah has large areas of overlap with other legal codes of the ancient Near East. The Old Testament uses ancient names for God such as El Shaddai and El Elyon. But this does not imply that the Biblical narrative is merely part of the religious corpus of the ancient Middle East. There is not only continuity, but also discontinuity: God has given a radically new revelation of who He is and what His purposes are (Newbigin, 1989, 75)[142].

The gospel is addressed to human beings, who only exist as members of communities that share a common language, customs, ways of ordering public life, ways of understanding and coping with their world. If this gospel is to be

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[142] In NT Wright, 1996, this is made into a hermeneutic principle in the 'quest for the historical Jesus'.

understood, if it is to be perceived as truth about the human situation, if it has to 'make sense', it needs to be clothed in the language of those to whom it is addressed, using the symbols which are meaningful to them. However, this brings with it the danger that the gospel becomes merely a product shaped by the mind of the hearer. This is the *problem of contextualization*. How can the gospel 'come alive' in a different cultural context, while still remaining the same authentic gospel? (Newbigin, 1989, 142).

The first point that needs to be made is that there is no such thing as a 'pure gospel' in the sense of something that is not embodied in a particular culture. The gospel always comes 'as the testimony of a community which, if it is faithful, is trying to live out the meaning of the gospel in a certain style of life' (Newbigin, 1989, 144). That is already true for the form in which the gospel comes to us: the Bible is a book which very obviously originated in a specific cultural setting. 'And, of course, it could not possibly be otherwise. Something which is not expressible in any human language, which is not embodied in any human way of living, which is not located in a specific time or place, can have no impact on human affairs. Here we are back again at the doctrine of election … God's universal purpose of blessing has to be wrought out through specific acts at specific times and places, and involves particular people. It is wrought out in history, and history is a matter of these specific and particular places, times and people' (Newbigin, 1989, 145).

It is already obvious in Scripture that the community of believers is not automatically bound to the same laws as those who went before them (cf. for instance the Sabbath laws, the dietary laws or the command to circumcise). But, if one of the Ten Commandments could be scrapped, what justification is there for insisting on the others? What is Christian obedience, in any given culture? Many have answered this question by pointing at some highly general concept, such as freedom, love or justice. But the result has been that the gospel then becomes replaced by moral law or a political program, 'or – more often – a combination of the two in which a particular program is invested with a degree of moral passion which raises it above the level of merely pragmatic argument' (Newbigin, 1989, 146).

The answer Newbigin proposes to the question is: the life of Christ, the life which is a true foretaste of the kingdom, is best continued in the period between ascension and *parousia* in the life of a community which remembers, rehearses and lives by the story told in the New Testament.[143] Newbigin expresses this in the phrase 'the congregation as the hermeneutic of the gospel':

> 'How is it possible that the gospel should be credible, that people should come to believe that the power which has the last word in human affairs is represented by a man hanging on a cross? I am suggesting that the only answer, the only hermeneutic of the gospel, is a congregation of men and women who believe it and live by it' (Newbigin, 1989, 227).

Newbigin makes it clear that here he does not think of the worldwide church community, but the local congregation, which serves as 'the sign, instrument and foretaste of the reign of God present in Christ for that place … in relation to the secular realities of that place' (Newbigin 1976/1997, 114-115).

7.2.6   Contextualization and Interpretation

Newbigin places the idea of contextualization at the core of how Scripture conveys truth to us. Contextualization – rendering the gospel relevant to a culture which is

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[143] One is reminded here of NT Wright's poignant parable of the unfinished Shakespearian play. 'Suppose there exists a Shakespearian play, most of whose fifth act has been lost. The first four acts provide, let us suppose, such a remarkable wealth of characterization, such a crescendo of excitement within the plot, that it is generally agreed that the play ought to be staged. Nevertheless, it is felt inappropriate actually to write a fifth act once and for all; it would freeze the play into one form, and commit Shakespeare, as it were, to being prospectively responsible for work not in fact his own. Better, it might be felt, to give the key parts to highly trained, sensitive and experienced Shakespearian actors, who would immerse themselves in the first four acts, and in the language and culture of Shakespeare and his time, *and who would then be told to work out a fifth act for themselves* (NT Wright, 1992, 140). The authority of the first four acts is not such that the authors can simply go there and look up the right things to do and say. A good fifth act will show a development, not just a repetition, of what went before. Yet the actors are not free in what they will do or say, certain things will fit, while others will not. The authority of Scripture is very much like this: we are not looking in Scripture for timeless truths, but we are looking for and at a vocation to be the people of God in the fifth act of the Creation. In this we will not have certainty, and faith and obedience remain essentially risky. The history of Israel, of the disciples during Jesus' time, and of the Church are in fact littered with examples of individuals, groups and movements whose improvisations turned out to be based on a misreading of the story so far. But this does not mean that the overall task is impossible, merely that the actors remain fallible (ibid, 143).

foreign to it – is not merely a problem in foreign missions, but characterizes the entire enterprise of religious communication. There is not such a thing as the pure gospel, that merely needs to be translated into the terminology of another culture. This is the consequence of the logic of election: the fact that revelation took place in a particular culture at a particular time and place in history. In order to be relevant to that culture and time, revelation had to make use of the language, the conceptual system of this culture and time. And this means that 'every communication of the gospel is already culturally conditioned', even the very first (Newbigin, 1989, 142):

> 'The Bible is a book which is very obviously in a specific cultural setting. Its language is Hebrew and Greek, not Chinese or Sanskrit. All the events it records, all the teaching it embodies, are shaped by specific human cultures. And of course, it could not possibly be otherwise. Something which is not expressible in any human language, which is not embodied in any human way of living, which is not located in any specific time or place, can have no impact on human affairs. Here we are back again with the doctrine of election' (Newbigin, 1989, 144-145).

Let me invite you to a thought experiment that will clarify what Newbigin is about here. Suppose the infinte, holy, transcendent God of the Judeo-Christian-Muslim tradition desired to communicate with finite, sinful[144] men and women on their level. He would need to contextualize. He would need to use the words, images and concepts that are in use in human cultures. Doing this He must run the risk of being misunderstood – I believe it was Barth who pointed this out – but this is a risk He must take in order to be understood, in order to be relevant to our world. If He wanted to call himself Father, He would compare Himself with our human fathers, the good as well as the evil ones. If He would call Himself a King, He reminds us of those who stand in authority over us, the Mandelas as well as the Mugabes. If He refers to Himself as Elohim, He puts Himself in the same class as the Baals, Astartes

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[144] The definition of the term 'sinful' has become problematic. I will use it in this context to indicate the structural evils of lust, greed and will to power that Ricoeur's three prophets (Marx, Freud and Nietzsche) indicated perverted the Western conceptual system.

and Molochs. But there was no other way if He wanted to be relevant to the culture to which He revealed Himself.

Contextualization thus, while necessary to be relevant to a particular culture, runs the risk of syncretism. Mike Goheen, in a talk on Newbigin's Missionary Contribution to the International Symposium of the Association for Reformational Philosophy in August 2000 in Hoeven, the Netherlands, distinguished two different problems that contextualization must address:

- Cross-cultural communication of the gospel from one culture to another must avoid the twin problems of syncretism and irrelevance. Newbigin repeatedly relates to his own experience in India. In order to be relevant to his listeners he must use Hindu words and symbols, for instance to refer to God. However, these words and symbols often have meanings that are alien or even opposed to the Christian message and thus would distort the Christian message. Used in the context of the Christian message such words and symbols are 'displaced persons' (Visser t'Hoofd). There must thus be both continuity and discontinuity in the meaning of such words and symbols. Contextualization works by a process of challenging relevance (Allen Hogg) or subversive fulfilment (Kraemer), where existing words and symbols are used, but at the same time filled with a new meaning. Newbigin sees the fourth gospel as the paradigm example of subversive fulfilment (Newbigin 1982).

- But there is an additional problem that Goheen argues is concerned with the gospel and cultures (plural), and that is the twin fallacies of the ethnocentricism that considers the western form of Christianity as normative, and the relativism that subjects all religious truth claims to the skepticism of postmodern pluralism.

Newbigin became acutely aware of this 'cultural captivity of western Christianity' (Newbigin, 1994, 66), during a series of weekly meetings that he had with the monks of the Ramakrishna monastery. He remarks somewhere,

> '… the Church, which is entrusted with the truth, is also a body of sinful men and women who falsely identify their grasp of truth with the truth itself …

The Church can and does allow the truth that is entrusted to her to become an ideological justification of her own human interest' (Newbigin, 1994, 76).

There is thus in western Christianity, like in all other manifestations of Christianity, an urgent need for a hermeneutics of suspicion (Newbigin 1989, 149, see also den Hollander 2005). He, however rejects the suggestion of the liberation-theologians of the epistemological privilege of the oppressed. This privilege, Newbigin argues, may be defended on either of two grounds. The first takes the principle to be prior to the appeal to Scripture. Newbigin rejects this on the basis of the incommensurability principle: it subjects Scriptures to an alien conceptual framework (ie, Marxism or Social Constructivism). The second bases the privilege on a reading of the Scriptures themselves, often referred to as God's preferential option for the poor. Newbigin, although acknowledging the many 'passionate expressions of God's concern for justice for the oppressed' (Newbigin 1989, 150), rejects this appeal as well, as being unbalanced: 'Jesus shocked the established authorities by being a friend to all' and on the cross was rejected by all.

What does Newbigin regard as the solution for the problems of contextualization? First, he rejects with Roland Allen (Newbigin, 1989, 146 ff; 1978, 128ff), long periods of tutelage in missions, aimed at subjecting new converts to a rigorous programme of enculturalization into a 'Christian (read Westernized) culture'. Rather he points to the fact that Paul rarely stayed more than a few months and never more than a few years in one location, leaving the new Church to embody their new faith in their own ways. Then,

'As we share in the life and worship of the Church, through fellowship, word and sacrament, we indwell the story and from within that story we seek to be the voice and the hands of Jesus for our time and place. Because we are also driven by our selfish desires and interests we will be aware that we require constant correction and that for this we must look to those who share the life in Christ but inhabit different cultural situations' (Newbigin 1989, 151).

As we are not only Christians, but also members of a certain culture, we indwell the plausibility structures of our native culture as well as our Christian framework, and

will therefore be blind to our own cultural captivity. However, in the same way that we are acutely aware of how Christians of African or Asian origin have accommodated the gospel into the framework of their culture, so they will be aware of our cultural captivity (den Hollander 2004). Central in this is making the Scriptures available in the languages of the new Christian communities, which allows them to operate 'as an independent source of criticism, directed both against the Christianity of the missionary and against the traditional culture of the tribe' (Newbigin 1978, 147). In this way a triangle of forces comes into existence, between the culture, the invading culture and the Scriptures. Newbigin argues that this process should take place within the Church worldwide, and maintains that the World Council of Churches is an important platform for this dialogue.

7.2.7   Discussion

We will limit our discussion of Newbigin to the following points: First, the questions whether there is in modernity indeed a private world of values and a public world of facts, as Newbigin seems to suggest. Secondly we will listen to a few other voices on the logic of election. We will thirdly, elaborate a little further on the gospel as narrative, and lastly, we will discuss the criticism that has arisen from within the circles of the Polanyi society on Newbigin's interpretation and use of him.

7.2.7.1 The Private World of Values and the Public World of Facts

Christopher Kaiser (Kaiser, 1999, 16-18), has pointed out that Newbigin's picture of the separation of a private world of values and a public world of facts is an oversimplification of Berger's thoughts. According to the latter the public world is not a monolithic entity, but fragmented into distinct subworlds or enclaves, each with its own worldview and plausibility structure, such as a bank, a doctor's office or a political party (ie, similar to MacIntyre's practices). Likewise the private sphere is fragmented into distinct enclaves: the family, the church, the ethnic group. Our life-world is a composite of all these separate enclaves. For those of us who have

religious convictions, these are usually only relevant in one or two enclaves (such as church and family), but not in others (bank, workplace). Kaiser argues that we are guided in our functioning in the public spheres by personal goals that 'have their origin in one's private life and are nourished by the plausibility structures of family, ethnicity and faith.' The means, on the other hand, by which these goals are pursued, are usually 'based on the plausibility structures embedded in the public enclaves'.

Kaiser's critique is an important correction on Newbigin's thought. Modern reality is never so simple that it can be divided into two areas, a private sphere where values are acquired and a public sphere where facts are learned – but by the same token also not in a private sphere where 'personal goals' are developed and a public sphere where 'acceptable means' are formulated. Typical public entities such as newspapers, television and entertainment industry and the Internet are powerful contemporary inducers of personal goals, while private institutions such as church and family exert a strong influence on a person's perception of what are acceptable means to achieve one's goals. This precisely is Newbigin's point.

7.2.7.2 The logic of election

We now come to the second point: The revelation Christians are concerned with is not merely a transmission of a number of truths, but it is the self-revelation of God. As Schwobel puts it, 'In God's revelation God's creative and saving agency is disclosed by God as the grounds for the possibility of the human response of faith' (Schwobel, 2002, 34). This understanding of God's self-disclosure is 'disconcertingly particular':

1. The particularity of God's self-disclosure is nowhere more apparent than in Christ, who stands at the centre of Christian worship. Here the Christ-event is remembered and retold as 'the promise of the future consummation of God's relationship with creation'

2. The God Jesus calls His Father is the particular God of Israel, who elected His covenant people in sovereign freedom and remains faithful to His promises despite the rebellion and alienation of His people. It is this covenant – of a

'tribal' God with His people – that Jesus opens up to include all who are justified by faith.

3. When this covenant is thus opened up, it is vindicated in a way that its content becomes evident as the promise of salvation for this particular person, which may live in a very different cultural and social context. (Schwobel, 2002, 35)[145]

This argument has several important implications about the manner in which we proclaim the gospel. John Webster (Webster, 1998, 117, summarizes this as follows:

'Proclamation and service are not about striving to make the gospel real but about demonstrating that it is already indefatigably real. The gospel goes ahead of the church. Proclamation and service are the testimony borne by the community of faith to the progress of the gospel, a progress in which the community is always and only a distant and not very wise or powerful follower. 'Christ always leads us in triumph' (2 Cor 2: 14). Both proclamation and service emerge from a deep delight in the gospel, and from confidence in its capacity to look after itself. This is why proclamation is not a matter of tense polemic, anxious to win a hearing and persuade, but celebration, excited description of the world of the gospel in its compelling force … Similarly, service as a following of Jesus is not the church making Christ real by doing, in His stead what He has not yet done, but rather a 'showing' of His accomplishment, a manifestation of His Diakonia.'

7.2.7.3 Narratives and Myths

Newbigin states that the truth that Christians believe is given in the form of a story. He, however, does not elaborate much on the role of narrative in Christian theology.

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[145] Cf also DG Moses (quoted in Selvanayagam, 1999, 44-45): What is the criterion for religious truth? This cannot be decided 'on the basis of its conformity of congruence with a philosophical system', neither on the conservation of values (for 'the very discovery of values is often the result of the religious attitude') rather it will be the extent to which it satisfies the 'universal and insistent needs of religions' – such as the problem of the power and guilt of sin.

Although a full analysis of narrative theology would be beyond the scope of this thesis, a few remarks are in order. Fackre (1996, 29ff), distinguishes three types of narrative theology, associated with three types of stories:

1. Canonical stories. This form of narrative theology looks at the individual biblical narratives as the carriers of truth. The truth is inseparable from the story form, and the story becomes a paradigm in the sense of the later Kuhn; models of faith.

2. Life stories. This form of narrative theology looks at the life stories of individual believers, their personal journeys, and how their faith becomes relevant in their daily experiences.

3. Community story. This looks at the overarching story, the great sweep of history – what Lyotard calls the meta-narrative.

What Newbigin has in mind when he talks about narratives that Christians indwell is this third form of narrative theology. This however, does not mean that Polanyi's notion of indwelling can not be very fruitfully applied to canonical and life stories as well.

Among recent philosophers, Alasdair MacIntyre assigned a central role to narrative: 'man is in his actions and practices as well as in his fictions, essentially a story-telling animal' (MacIntyre, 2002: 216, cf. p 211). Human actions are primarily enacted narratives (MacIntyre, 2002: 208). Man is a 'teller of stories that aspire to truth'. And he continues

> 'We enter human society, that is, with one or more imputed characters – roles into which we have been drafted – and we have to learn what they are in order to be able to understand how others respond to us and how our responses to them are apt to be construed. It is through stories about wicked stepmothers, lost children, good but misguided kings, wolves that suckle twin boys, youngest sons who receive no inheritance but must make their own way in the world, and youngest sons who waste their inheritance on riotous living and must go into exile to live with the swine, that children learn or mis-learn what a child or what a parent is, what the cast of characters may be in the drama into which they have been born and the ways of the world are.

Deprive children of stories and you leave them unscripted, anxious stutterers in their actions as in their words. Hence there is no way to give us an understanding of any society, including our own, except through the stock of stories which constitute its initial dramatic resources. Mythology, in its original sense, is at the heart of things.'

This is also true for the Biblical narrative: they form the paradigm examples for Christian living. Like Newbigin, Selvanagayam (1999: 63), argued that 'Christian truth is located not in a proposition but in a story', and continues that 'in interfaith dialogue it is important to tell the story, the whole story and nothing but the story'. I disagree, however with Ariarajah[146] that all this implies that exclusivist language in the Bible therefore must be considered not as absolute truth, but as the 'language of faith and love'. Such a point of view simply does not do justice to the language of the Bible, which in such exclusivist statements means to say something not only about God, but also about the 'other gods'. An inclusivism like Ariarajah proposes leaves us defenseless against whatever ideology comes up, and forces us to embrace not only other religions, but also evil ideologies such as Apartheid and Nazism as acceptable paths to truth

The view of Biblical authority that emerges here is thoroughly postmodern, as John Perry has pointed out (Perry, 2001)[147]. In most postmodern theology the Bible's

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[146] Ariarajah, reference untraceable. His 1999 article, although not using the terminology quoted, however, was written in the same spirit.

[147] Perry makes these comments in an article on the inerrancy debate that has raged in evangelical circles since the early 20th century. He points out that this debate was fuelled by the reliance of evangelicals on a Lockian foundationalism, and remarks that 'It is important to realize that rejecting the modern philosophy of foundationalism is not an admission that the Bible is errant. Rather, it is a strong claim that foundationalism's categories of 'errant versus inerrant' are wrong-headed. For someone who has abandoned foundationalism as an epistemology, recognizing minor discrepancies such as Peter's denial or the number of deaths in a certain battle does *not* undermine the Bible's authority. As we have seen, this is how Luther and Calvin approached the issue; thanks to the development of postmodern philosophy, contemporary theologians can do the same.
There is, therefore, a place for biblical authority in a non-foundational world. But many evangelicals will, likely, still be concerned that anything less than a detailed inerrancy will lead to unbounded relativism, in Scripture reading. How does one ensure (without an indubitable foundation) that the Bible is interpreted faithfully? The response to this concern is one that some evangelicals will find disturbing, but one that is important nevertheless. The evangelical church must be willing to recognize that its reading of Scripture is a community-based activity that embodies the ongoing history of the church's tradition.

authority rests on the Church's recognition that the Bible is inspired and therefore authoritative. Reading the Bible is a community-based activity that embodies the ongoing history of the Church's tradition. Perry quotes in the context JR Wilson: 'In the new paradigm that I am seeking to develop, biblical authority is centered in the community of disciples, not in the work of the expert. Before the watching world, the church is called to live in such a way that the authority of Scripture is displayed as a witness of the gospel of Jesus Christ.'

But does this identification of the biblical narrative – the form in which truth is given – with mythology not imply that it is a mere human construct and thus in the final analysis untrue. This seems to be the conclusion of Smit (1994) who, in a series of articles on the relevance of Roland Barthes' mythology for the reading of Mark, writes 'It has become evident in the explications concerning characterization and the function of events that the reader is continuously manoeuvered into a situation where she is informed about the divine chronotrope[148], coerced to confirm and accept the presence of the divine chronotrope and invited to evaluate all characterization strategies and events on the basis of the revealed information concerning the divine chronotrope. This strategy has the effect of continuously placing the reader in a sphere where she/he shares information about the chronotrope. This strategy seduces the reader to inhabit the space created by the mythological chronotrope' (Smit, 1994, 60).

A number of remarks need to be made here. Firstly, mythological narratives are primarily told not to seduce others to accept a worldview, but to legitimize one's own (see Lyotard, 2003). The divine chronotrope is the position already accepted by Mark and his readers. They have already been convicted – not by the narrative, but by what they experienced though the Christ-event – that God's time and space had

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[148] Smit merely introduces the term chronotrope without further elaboration. MM Bahktin defines it as follows: 'in the literary artistic chronotrope, spatial and temporary indicators are fused into one carefully thought out, concrete whole. Time, as it were, thickens, takes on flesh, becomes artistically visible; likewise, space becomes charged and responsive to the movements of time, plot and history.' Quoted in a footnote in Eric Sundquist. *Melville, Delany, and New World Slavery*. In Rivkin and Ryan, *Literary Theory, an anthology*. Blackwell, 2004. It is doubtful whether we are justified to ascribe such a level of sophistication to Mark's gospel, but if we take Smit to mean merely a conceptual system, much of his argument still works.

invaded the world of men, and they will now tell and read the events from this perspective (see 7.2.1). Secondly, in as far as the narrative is missionary, it will indeed invite outsiders to see the events from the perspective of the 'divine myth'. True, but is there any other way of telling a story? Even those deliberately presented as fiction 'seduce' us to accept a certain perspective on things. Tolkien's Middle Earth narratives 'seduce' us to accept a particular kind of morality, the idea of divine providence, to accept the existence of a spirit world (Durriez, Wolterstorff, 1980, 122ff, 144ff). Even more so, in history, merely to tell 'what happened' would overload the reader with a baggage of irrelevant detail. A selection is required. But how do we select what is relevant, but by having an idea of what the meaning of history is – a meaning that can only be expressed as a 'myth'. Thirdly, the use of the term 'myth' – and it must be observed that Barthes' use of the term is at the least unorthodox – is important. Why did Barthes use the sign 'myth' as the signifier of his theory? In what he calls language, myth has the connotation of a story that is widely believed, believed to be true and is foundational; but also a story that is false. It is these meanings that are carried through into the concept of 'myth'. Barthes assumes – wrongly, I believe – that myths are necessarily false. He does so on the basis of the privileged status of revolutionary language (Barthes, 1973, 159). False, to whom, we must ask. Certainly, false only to whom is 'seduced' by a rival myth. But not false to whoever indwells the myth. For her the myth speaks of truth, real, universal truth. This is not to say that what is true for one person may be false for another. To say that would be to misunderstand the nature of myth. Myths are about truth, about what is ultimate and real and basic to everything. Myths are what we stake our life, and our eternal happiness on. Myths are the glasses through which we interpret the world, and just as one pair of glasses is better than another – and we can know so – one myth will be better than another.

7.2.7.4 Did Newbigin Understand Polanyi?

Finally, it has been suggested that Newbigin's appeal to Polanyi was unjustified. Polanyi's philosophy of knowledge was a philosophy of scientific knowledge and can

as such not be applied to religion. Richard Gelwick, for instance, states that, although Polanyi argued for a common ground between science and theology in their use of tacit knowing, he also saw a different function for each. Gelwick sees this difference as a 'contrast between verification and validation, between frameworks of indwelling and between horizons of reality' (Gelwick, 2000-2001). Facts of science are specific and thus more suitable to verification[149], while the experiences of mathematics, art and religion are more general and thus suitable for validation. 'Science, art, myth and religion all share in the use of tacit integrations to form meaningful subjects'. However, where the 'natural integrations' of science are based on observation, those of mathematics, art and religion are based on 'trans-natural integration' (Gelwick, 2000-2001). Gelwick quotes Polanyi and Prosch: 'It is therefore only through participation in acts of worship – through dwelling in these – that we see God. God is thus not a being whose existence can be established in some logical, scientific, or rational way before we engage in our worship of Him. God is a commitment involved in our rites and myths. Through our integrative, imaginative efforts we see Him as the focal point that fuses into meaning all the incompatibles involved in the practice of religion' (Gelwick 2000-2001)[150].

According to Gelwick, Polanyi would have objected to Newbigin's use of the term 'the fact of Christ', because it equated this with the type of facts that science investigates. To use the term 'fact', as used in science as the norm for the truth claims of religion, is to hold the very scientific reductionism that Polanyi tries to overcome' (Gelwick, 2000-2001, see also Gelwick 2001-2002).

Gelwick's criticism seems to be motivated by the assumption that Newbigin's apology demonstrates a 'nostalgia for the past of Christian dominance of our culture' (Gelwick, 2000-2001)[151]. Neither is Gelwick much impressed by Newbigin's use of Polanyi's notion of indwelling: This is because Gelwick interprets Polanyi as distinguishing between the different ways the scientific community and the faith community indwell. Unlike the former, the faith community's claims make no sense

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[149] However, see Polanyi's rejection of induction, verification and falsification in chapter 1 above.
[150] The reference is from Polanyi and Prosch, *Meaning*, 1975.
[151] This accusation is unjustified. See for instance Newbigin 1994, 72-73.

in literal terms, but only 'by its integration of our ordinary lives into a grand story of cosmic meaning' by which it carries us to 'sublime understanding'.

The problem here is that Gelwick is too Eurocentric. The language of science would, likewise, make no sense in literal terms to somebody standing outside the Western tradition of which it was a formative part. Evaluating Gelwick's criticism, one must point out from the start that Polanyi himself repeatedly invited comparisons between science and religion. One difference between Newbigin and Polanyi, however, that could serve as a starting point for a discussion of Gelwick's criticisms, is the following. Polanyi, as we have seen, describes the scientific 'system of belief' as the faith commitment of a particular community, *in casu* the scientific community, Newbigin follows him in this. 'Facts' in such a community are never objective in a simplistic sense of the word, but those states of affairs which the scientific community accepts as 'being the case'. However, when Polanyi talks about faith, he reverts back to an Enlightenment notion, faith as a religious experience (Polanyi, 1961). Polanyi himself describes this as the experience of 'breaking out'. The notion of faith as mere religious experience can never be the basis of a truth claim, and hence should lead to the conclusion that, as adherents from all religious traditions have similar religious experiences, all those traditions are equally authentic. This indeed is where Gelwick seems to end up. However, it should be noted that, if this is so – and the many references to religious belief systems in Polanyi's writings suggest that this is not the entire story – it would amount to an inconsistency in Polanyi's thoughts. Newbigin, in describing the Christian community as an *other* community of faith, with a rival system of beliefs to that of modernist science, is indeed much more in line with both current post-modern thinking and with Polanyi's general line of thought. Neither was he the first to interpret Polanyi as such. We have already dealt with the work of Milevac and Puddefoot. TF Torrance (Neihardt, 1989), argues for the unitary character of theological and scientific knowledge. Science 'reveals a hidden intelligibility that undergirds the realm of confusing and often seemingly contradictory human experience … Such intelligibility … is the cornerstone of a realistic objectivity that is grounded in and guided by today's creative science.' Torrance sees this intelligibility as ontological and 'a direct consequence of God's

free, rational agency towards His creation' (Neihardt, 1989, 91). Creative science progresses through 'an imaginative postulation of 'invisible' hidden patterns which explain the 'visible' observational patterns. Such innovative leaps are grounded in and guided by the creative scientist's convictions regarding the form of nature's intrinsic order (Neihardt, 1989, 92). Torrance follows Polanyi here. All creative science is an integration of theory and practice, and theology is such a creative science. Neihardt quotes in this context the words of Karl Barth (Barth, 1959, 9):

> 'I propose that by science we understand an attempt at comprehensibility and exposition, at investigation and instruction, which is related to a definite object (the living God or physical reality), and a sphere of activity (the church or scientific community). No act of man can claim to be more than an attempt, not even science. By describing it as an attempt, we are simply stating its nature as preliminary and limited … In no science is it a matter of pure theory or pure practice, on the one hand, theory comes in, but also, on the other hand, practice guided by this theory.'

Torrance rejects the old division of natural science as being primarily concerned with *how* questions, and theology with *why* questions. *How* and *why* questions occur both in natural science and theology, and cannot be thus separated.

There are two ways of holding beliefs. Some are held by the explicit profession of certain articles of faith, as the Apostles' Creed when recited in the words of the Book of Common Prayer. The other form of belief is held implicitly by reliance on a particular conceptual framework by which all experience is interpreted. The process of philosophical and scientific enlightenment has shaken the stability of the first type of beliefs, those held explicitly as articles of faith, whether this be faith in the religious sense of the word, or faith in the validity of the scientific method. To assert any belief uncritically has come to be regarded as an offence against reason. The result seems to have been that all forms of faith have been converted into implicit beliefs, hidden as tacit commitments within our conceptual frameworks, where they are safe from our skepticism.

Gelwick thus follows Polanyi's notion of faith as 'experience' (and hence different from science) and he ends up with a relativistic notion of faith. This indeed is Polanyi's take on faith in his first section on religion (1964, 197-199). But this notion is not consistent with Polanyi's general philosophy. Newbigin's use of Polanyi, which interprets faith as a conceptual system or an interpretative grid, however, is. Polanyi himself seems to take this road in his second section on religion (1964, 279-292).

Chapter 8

Conclusions

The question, which we set ourselves at the beginning of this thesis, was the following:

Given the generally sound arguments against the objectivist model of truth, which render this model neither plausible, nor desirable, is there a way in which we still can testify to religious truth in the public sphere, and do so with universal intent?

We must now evaluate, first how Polanyi answers this question for truth claims in science, ethics and religion, and secondly, how Polanyi's answers have been used and developed by the two theologians we have discussed, Puddefoot and Newbigin.

Polanyi developed his thoughts against the background and in opposition to the analytic philosophy of Bertrand Russell and Karl Popper. Like the latter, he considers scientific discovery as the paradigm of all knowledge acquisition. The analytical philosophers, interpreted by Polanyi as the logical endpoint of the entire modernist movement, strived after *the ideal* of impersonal, objective knowledge, and their view of science was thus essentially prescriptive. In 2.3 I have shown that this ideal can be traced back to Plato's *The Republic* and beyond him to Parmenides' poem, but whereas in Plato the objects of knowledge were the absolute Ideas, during the scientific revolution the object of knowledge became the absolute laws of nature. In the nineteenth century Christians apologists, in particular those associated with the Princeton school of evangelical scholarship, came to see theological truth claims similarly as absolute. The truth-question in this scheme of thinking is when one is *justified* to call a certain proposition true; in other words, with what conditions must the proposition comply in order to be called true?

Polanyi, on the other hand, started with a detailed examination of how knowledge *was actually acquired* first in animals, then in the developing human, and finally in scientific discovery. Polanyi's main point can be summed up in his statement that 'once the dynamics

of knowing are recognized as the dominant principle of knowledge, the difference[152] appears only as one of degree'. His view of science is thus essentially descriptive. He made extensive use in this investigation of the insights of the Gestalt psychologists. This led him to validate knowledge acquisition primarily as a skill (3.2). An early evolutionary paradigm case of such a skill is the probing of the unicellular amoeba of his environment by 'sticking out' its pseudopods to 'feel out' his direct environment. This characterizes knowledge acquisition as an intentional act in which the organism reaches out to reality in order to get to know it.

Polanyi's Gestalt-concept of knowing as a skill gains perspective when it is placed against the modernist epistemological problem, which can be formulated as follows: *How can a mind (perceived as Descartes' res cogitans) acquire knowledge if all it has access to are sensations?* Polanyi rejects the basic assumption of Cartesian dualism. That this is not immediately clear is because of the need to express this in the language of modernism, hence Polanyi has to employ terms such as 'indwelling' and 'commitment': The mind, indwelling a body, and in particular the organs of perception, reaches out to reality. In this reaching out, which implies intentionality, the mind/body recruits elements of this outside reality as extensions of itself, such as tools, language and conceptual systems. The similarities to the ideas of distributed cognition scientists such as Andy Clark have been alluded to (3.2.3).

Intentional acts are directed towards something - the object to be observed, the task to be completed, the message to be conveyed – something to which the attention of the actor is directed, something, as Polanyi calls it, of which the actor is focally aware. But while thus focally aware of wherever her attention is directed, the actor at the same time subsidiarily relies on many other things, varying from the reliability of her organs of perception to the tools she uses and the language in which she communicates.

Given all that has been said in chapters 3 and 4, here two examples should suffice to illustrate what Polanyi has in mind. A few years ago a microbiologist noticed that the cells of sufferers from a new disease, for which hitherto no cause had been found, contained virus

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[152] ie, between various types of knowledge, such as scientific, moral or religious knowledge.

particles. Before ascribing this newly identified virus as the cause of the Acquired Immunodeficiency Syndrome the microbiologist knows that a number of criteria need to be fulfilled, collectively known as Kocher's postulates[153]. Insofar as microbiology is a critical science this exists in the application of tests such as Kocher's postulates. But at the same time that the microbiologist looks critically at the claim that HIV causes AIDS, he relies on a large number of beliefs:

- He believes in the reliability of his tools (which in this case include a highly sophisticated instrument, an electron microscope) and on the theories underlying the instrument.

- The instrument produces a two-dimensional image that the scientists must somehow 'translate' into the reality it represents. This translation involves a Gestalt switch. Reading a geographical map, an x-ray or a music score are all similar exercises where the expert translates the information provided into a picture of reality (the lay of the land, the state of the patient's lungs a musical composition). All such translations involve a Gestalt switch, and it is in the nature of Gestalt switches that they are tacit. Although the condition before and after the switch may be described in words, the actual switch cannot.

- The faith he puts in the overarching theories of microbiology, and beyond that in the foundational assumptions of the scientific endeavour itself remain unchallenged. For instance, Koch's postulates assume that the universe is an ordered whole, where events 'obey' the laws of nature. The microbiologist, when using Koch's postulate, never challenges this assumption. He usually considers it self-evident, and accepts it tacitly.

As another example we may consider Derrida's argument that words signifying universals (such as dog) need to be erased as soon as they are defined. Derrida made this argument in dense prose containing a plethora of technical philosophical terms, of which he (tacitly)

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[153] Kocher discovered the tubercle bacillus (Koch's bacillus) as the cause of tuberculosis, and maintained that in order to establish the relation between a disease syndrome and the micro-organism thought responsible three criteria need to be fulfilled. The micro-organism must be present in the cells of all sufferers, it must be possible to isolate the organism (ie, the organism must be capable of life outside of the human cell) and when inoculated into a healthy person the micro-organism must produce the disease. The human immunodeficiency virus (HIV) only complies with the first postulate: it is found in cells of all sufferers. It is not capable of life outside the human body (hence it can only be transmitted
+ 8by sexual or direct blood contact). Testing the third postulate is usually done using animal models, but as AIDS is a disease unique to humans, it will not produce AIDS in animal models. Inoculating humans is clearly an unethical test and can thus not be carried out.

assumes that the meaning is shared between himself and his readers. We are reminded of Polanyi's remark that you cannot put an entire sentence between brackets (3.2.2). What are we supposed to do with the universal 'dog' if we have to erase the universal 'erase'?

Tacit knowledge can be of two kinds:

- Some tacit knowledge, such as the steps involved in a skill, are not explicit at the time of performing the skill, but can under certain circumstances be made explicit, for instance when teaching the skill. This is associated with a shift of the focus of attention from the aim towards which the skill was directed to (part of) the skill itself. Usually this results in inability to perform the skill well.
- Other forms of tacit knowledge, such as the sound of a musical instrument or the difference between two synonyms, defy any attempt to be made explicit. Many Gestalt integrations, such as those involved in face recognition, are of this kind. We will refer to this form of tacit knowledge as the strong sense of the term.

Although he does not spell this out, the implication of Polanyi's thought is that the tacit component of our knowledge is far greater than what is explicitly known at any moment in time. When making a proposition such as "HIV causes AIDS' we communicate much more than the mere fact of a causal association between a virus and a disease syndrome. Polanyi summarizes that 'more' by saying that we in addition communicate the amount of confidence we attach to this proposition. The believer, who argues that abortion is sin, is not merely uttering a moral imperative, but also indicating the level of confidence she has of knowing and speaking the mind of God. This level of confidence depends on the myriad of tacit commitments mentioned above, and is in consequence to a large extent itself tacit. This, Polanyi argues, is the reason why the fallacy of strict objectivism, of impersonal knowledge can arise. The tacit commitments are experienced as self-evident and are thus never questioned.

8.1   How can we speak about universally valid truth?

Polanyi expresses this in the form that we must replace 'p is true iff P' with 'p is true if I believe P' (3.2.2). However, this does not commit him to a view where the human mind in sovereign autonomy decides on truth and falsehood. Polanyi observes that when people - such as scientists - make truth statements, they do so with what he calls 'universal intent': they assume that the truth they have come to believe in must be true universally. This is a

reflection of the belief that they have that, in their truth claims, they do not merely say something about the contents of their mind, but about the real state of affairs. Knowing for Polanyi is an intentional act, a reaching out to reality. The knower speaks with universal intent as a reflection of her confidence that the proposition uttered represents a state of affairs. The question now becomes, when is the knower right in making a truth claim. Note that I have deliberately avoided the philosophical term 'justified' here: justification implies that logical or scientific arguments can be brought forth that will support the truth claim of the proposition. In Polanyi's picture, however, most of the support for the truth claim is not explicit and at least some of it is tacit in the strong sense. We thus must not ask when are we justified to make a truth claim, but what reinforces our confidence in speaking truth claims? Recently, Alvin Plantinga formulated the question in terms of what kind of person can make truth claims, and proposed the term *warrant* to refer to the criteria such a person must have. Wentzel van Huyssteen's post-foundationalism (1998), speaks in similar terms and puts much emphasis on expertise in being warranted to make truth claims. Polanyi agrees that the tacit component of truth claims is linked to the person of the knower, but goes deeper than expertise in recognizing commitment as the warrant. The expert is only warranted to make truth claims in her field of expertise because she must commit herself in all truth claims in this field.

When are confident truth claims warranted? Polanyi answers this question with a detailed analysis of scientific discovery (chapter 4). In the scientific pioneer commitment manifests in the display of intellectual passion, of which Polanyi identifies three:

- The selective passion, which can be defined to the intuition of the right problem (4.1.1)
- The heuristic passion, which may be defined as the intuition to the right solution (4.1.3)
- The persuasive passion, which may be the intuition of universality (4.1.3).

Why did Polanyi consider scientific discovery as the paradigm of knowing? Polanyi argued that we indwell conceptual systems ('languages') which were stable in the sense that we do normally not reject our conceptual system because certain observations seem to be in contradiction with it (3.1.2). Conceptual systems have mechanisms to deal with such aberrations, ie, circularity, automatic expansion and suppressed nucleation, which keep the system stable. However, the discoverer of a new scientific theory starts with dissatisfaction with the explanatory power of the conceptual system to deal with the problem that has caught his interest, and intuits a hitherto unthought-of explanation (4.1). The discoverer

intuits the new explanation because he makes a Gestalt switch in his mind, and therefore, after the discovery, he sees the world in a different light: the duck has become a rabbit, the old hag a pretty young girl. He has what Polanyi refers to as 'broken out' of the conceptual system that he up till then indwelled, he has made a 'heuristic jump' (4.1.2). This heuristic jump or Gestalt switch is a tacit affair, the reasons for which may later be articulated but only in terms of the new conceptual system that has resulted from the heuristic jump. By studying what characterized successful discoveries Polanyi hopes to answer the question of warrant.

The first step in warrant is thus the heuristic jump, the conviction (usually a sudden event) of seeing right, of living in a world where suddenly everything makes more sense. Note that this is an entirely subjective and individual experience and conviction and by no means unique to the scientific discovery. The alternative healer, who suddenly 'sees' that the aura of precious stones will heal all ills, has also made a heuristic jump. Heuristic jumps are not only made by those who 'guess right', but also by those who 'guess wrong', to use Polanyi's own words.

So the question is, 'under what conditions the world after the heuristic jump can make claim to truth'. Polanyi argues that such truth claims can never be settled on logical grounds, as the discoverer after the heuristic jump lives in another world, with another language (4.1.3). The world after the heuristic jump is incommensurable with the world before. An observation by Newbigin should mitigate the incommensurability however. Making the heuristic jump does not imply total amnesia for the old world and its conceptual system. Although the discoverer now lives in a new world, he still is familiar with and conversant in the old conceptual system and therefore is able to translate between the old and the new language (7.2.6). Yet, and here Newbigin agrees with Polanyi, truth claims can never be settled by such translations. So how are they settled? Polanyi's answer is, as we have seen, by the knower's commitment. This commitment manifests in three forms:

- The first manifestation is that of personal commitment: Keppler's willingness to work for 16 years on what could have proven to be a wild-goose chase. But also the preparedness to step into a plane trusting that the laws of aerodynamics will hold it up in the air. Personal commitment to what one holds to be true is the willingness to stake one's time,

reputation or even one's life on it. Note that this is a radicalisation of Popper's falsification principle. According to Popper the truth of a theory is confirmed if it cannot be falsified. According to Polanyi a theory's truth is confirmed by an act of personal commitment to what one holds to be true.

- The second criterion is that of persuasion. The truth of theory is confirmed if one can convince others, and in particular those who are knowledgeable in the field concerned, of the truth of one's discovery.

- The third criterion is the ability of the newly discovered knowledge to lead us into new directions of exploration and discovery. This aspect of Polanyi's thought has been further developed by Lakatos in his theory of research programmes (4.2).

It should be noted here, though, that Polanyi does believe in a progressive development of science, in which the scientists acquire an ever deeper understanding of the universe. Although one can never say with certainty how close one's theories and models are to the real state of affairs (and thus should reject the correspondence theory of truth), knowledge is progressive – science is getting ever closer to 'the truth' about the universe. In this sense, knowledge is objective, but this is a much-scaled down and much humbler objectivism than that proposed by the analytic philosophers.

8. 2   How does Polanyi overcome the dichotomy between fact and value?

We now come to answering the sub-questions that we set in the introduction. The first of these was the question of how Polanyi overcomes the dichotomy between fact and value that is so characteristic for modernism. The problem arises out of Cartesian dualism between the *res cogitans* and the *res extensa*. Where facts represent entities in the *res cogitans*, entities that exist independently from the mind, values originated and remained in the *res cogitans*. The only way in which values then can have universal validity is when they are inborn, as Descartes himself assumed. However, the idea of an inborn conscience was soon rejected, as there seemed to be no evidence for it. The Gestalt psychologists and with them Polanyi, rejected Cartesian dualism . In Gestalt-thinking 'fact-finding' is a focused activity in which the knower intentionally directs her mind towards the aspect of reality that she is interrogating (3.2). The end results of this focused attention we call 'facts'. While she is thus focused, however, she subsidiarily commits herself to much else as we have already

pointed out. What is important here is that what is subsidiarily committed, are both facts and values. One type of value that is important is what has become known as 'intellectual virtues'. Polanyi pointed out that without intellectual virtues such as fair-mindedness, open-mindedness, intellectual honesty, carefulness, and courage there is no guarantee that the theories of the scientists indeed are an honest attempt at representing reality, or merely serve the scientist's (or scientific community's) interests (5.2). Polanyi in his writings points repeatedly to the Lysenko scandal as an example of such an aberration of science. The fact/value distinction is thus for Polanyi an artificial one. We can only critically interrogate one aspect of reality (or of our ideas about reality, which comes down to the same thing), while tacitly and a-critically relying on much else. And that which we rely on is a conglomerate of what can only artificially be distinguished as facts and values.

8.3 How does Polanyi develop the place of moral and religious knowledge within his theory of knowing? How do Puddefoot and Newbigin build on this foundation?

Having taken and investigated the process of scientific discovery as his paradigm of knowledge acquisition, Polanyi directs his attention to other forms of knowledge, ie, those acquired through art, in morality and in religious faith. He argues, however, that there is an essential difference between scientific knowledge and the other forms of knowing. Like the amoeba sticking out its pseudopods to probe its environment, the scientist reaches out to probe reality. Scientific knowledge acquisition thus proceeds from the self towards the world and is therefore, Polanyi maintains, essentially *self-centred*. Knowledge acquired through art, morality and religion is, on the other hand *self-giving*. This is so because knowledge in all three fields depends on a meaningful integration of incompatibles.

Polanyi's discussion of metaphors in art is carried out along similar lines to the more developed analyses of CS Lewis and Paul Ricoeur. In the metaphor ('My love is a rose', 'God, the Father') two incompatibles are superimposed: integration of the elements of the metaphor does not make sense in a literal sense, but on a non-literal level the integration of the incompatible elements opens up an entire array of meanings, which has the ability to carry us away, to carry us above ourselves, allows us to break out. Such arrays of meanings are in principle inexhaustible. Polanyi provides similar analyses for other art-forms such as paintings.

Similar incompatibles are at work in ethics. The moral code that Christianity demands allegiance to is essentially unachievable. Moral ideals need to be embodied in societal institutions that are characterized by parochial loyalty, appetitive property and violent

authoritative public authority. Ethics seeks a meaningful integration of these incompatibles, and only when this is achieved will we be carried away into a morality to which we are truly committed.

The incompatibility of religion results from the notion that God cannot be contained within the frameworks that we indwell.

8.3.1 Ethics

Before evaluating the implications of Polanyi's thoughts for religious knowing, we will now summarize his view of ethics. As remarked before, Polanyi did not set out to describe an ethical system and that is regrettable as his thoughts on the topic, which have great interest, remained sketchy. Polanyi distinguished between three levels at which morality operates.

The first is the level of moral passions (5.2). Throughout his writings Polanyi gives several hints as to what characterizes moral passions. They are inherent to men. However they are not appetites and therefore not grounded in our biological existence, but social constructs. This means that we are both the authors and the subjects of such moral passions. They must be distinguished from intellectual passions. However, in the final analysis, moral passions, like all mental passions belong to the tacit dimension of our being and can thus never be fully defined.

The second level is that of responsible choice (5.3). Responsible choice functions as the operational principle of morality. Conviviality plays an important role in responsible choice: we do not make ethical choices in isolation, but as part of a community of meaning. Within such a community, with its social setting and framework of obligations, ethical rules are set and subsequently regarded as binding on this community. The example of the Nuremberg code is a good illustration of how this functions in practice. Essential for authentic responsible choice is, Polanyi argues, freedom: the freedom to say, 'here I stand'.

The third level is that of the moral institutions (5.2), both those concerned with distributive justice such as institutions embodying group loyalty (such as the tax system) and those concerned with retributive justice (the legal system). However such institutions are, in principle coercive, a conflict arises with responsible choice. This conflict cannot be solved by abandoning these coercive moral institutes, as this would result in an amoral situation because it would benefit the law-breaker, leaving the morally good defenceless. The conflict is inherent in living out morality within society. This, however, is not detrimental but, on the contrary, the very motive which causes moral choices to take us beyond ourselves. How does that work?

It is not difficult to see in the three levels of moral passions, responsible choices and moral institutions similarities with, respectively, morality (descriptive, the moral customs of a certain community), ethics (prescriptive) and law. CS Lewis (1978, 28), has pointed out that the reflection of the ethicist does not take place in a vacuum, but always occurs from within

an existing moral framework, much of which, we could add with Polanyi, would be accepted tacitly. Ethical discussion – similar to scientific doubt – always challenges a (small) part of an ethical framework, and does so on the basis of other parts of this framework. Morality, or moral passions, is the moral framework which we inhabit. Because this framework is indwelled in conviviality it will establish itself in moral institutes, with or without reflection. This creates the conflict, and with it the realization that the moral framework is insufficient, is lacking. With this realization the desire to break out is born, and it is in this breaking out that the ethical person is taken beyond herself, 'steps out of the comfort zone' (6.1). However, it would be a mistake to seek the criterion of truth in the experience of breaking out itself. Rather, the desire to break out results from the realization that the current moral framework is insufficient to 'deal with' real life, that a new reaching out to reality is needed, and the euphoria that accompanies the experience of breaking out is the result of the belief that such a new contact with the real has been achieved. It is this belief, this commitment, which is to a large extent tacit and thus cannot be (or at least not yet) expressed in words, that is the 'justification' for believing with universal intent.

8.3.2   Religion as Indwelling

The incompatibility of religion results from the notion that God cannot be contained within the frameworks that we indwell. Puddefoot and Newbigin both provided a detailed analysis of such Christian frameworks. In their discussion, Puddefoot (7.1), emphasizes the informal element (the tacit in the strong sense) of these frameworks, while Newbigin puts more emphasis on that which can be made explicit (7.2.1; 7.2.2). This is related to the fact that Puddefoot argues from the experience of the early believers to the written words of the Scriptures, while Newbigin argues from the Scriptures to the experience of the contemporary believer.

Puddefoot maintained that Polanyi had argued that the differences between scientific discovery and religious knowing are gradual rather than essential. Although Puddefoot ignored Polanyi's distinction between the self-centredness of scientific discovery (described

as a movement from the self to the object of attention) and the self-giving nature of art, morality and religion, in which the subsidiary clues attain greater importance, taking this distinction into account only strengthens Puddefoot's argument. Thus, a religious statement such as 'For thus said the Lord …' does not merely relate a fact[154] but also communicates an entire world of meaning[155]. Although these meanings may be verbalized – and in Puddefoot's thought both Scripture itself and theology are attempts to do so – these meanings are never exhausted by such verbalizations. There are always new meanings, new interpretations possible (7.1). Therein, as Newbigin argues, lies the ability of the Scriptures to be relevant in ever new situations (7.2.5).

Although he never uses the term, at the center of **Newbigin**'s apology is the incommensurability between the modernist framework with its demand to subject every truth claim to the scrutiny of reason on the one hand and the Christian framework which refers back to the revelation of God in the Christ event (7.2.1). As argued before, this places him in the tradition of the neo-reformed philosophers such as Herman Dooyeweerd, Cornelis van Till, Alvin Plantinga, and Nicholas Wolterstorff, and of theologians such as Karl Barth. The former two, however, like many contemporary American Christian apologists, were presuppositionists. A presuppositionist maintains that everyone lives from within a worldview that is built on the foundation of a number of basic presuppositions, which cannot be proven and are accepted as a matter of faith. Presuppositionism is thus a form of foundationalism where an infinite regress is avoided by assuming a set of unproved presuppositions on which the entire belief structure is built by a process of deductive reasoning. Because these foundational presuppositions are faith-commitments, those who accept different faith commitments will inhabit different worldviews which are mutually incommensurable. Wolterstorff criticizes presuppositionism on a number of grounds, one of which comes close to Polanyi's argument that presuppositions (axioms in Polanyi's terms) are never anterior but always the result of an *a posteriori* reflection on an already indwelled framework (Wolterstorff, 1993, 1996). Furthermore, a presuppositionist commits to a propositional view of truth, and therefore ignores the entire plethora of tacit commitments

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[154] That someone heard the Lord tell him to relay a certain message to others.

[155] This is not unique for religious speech, though. As I have argued elsewhere (The ICU, ethics and distributed cognition, submitted for publication), if a doctor tells a nurse working in an ICU to start a certain patient on an 'inotrope', he not only orders the nurse to administer a certain drug, but also that the patient is in critical shock, that he already has been given intravenous fluids and these have been unsuccessful, and that he thinks that by now the patient's heart is failing.

that play such a central role in faith-commitments. Rooted in Polanyi's epistemology, Newbigin is not a presuppositionist. It is important to spell out the implications of Polanyi's epistemology for Newbigin's understanding of the authority of Scripture. Where the presuppositionist argued that believers inhabit a Christian worldview based on assent to a number of foundational propositional beliefs, for Newbigin the believer indwells a meta-narrative, or better a viewpoint on the history of the universe and the human race that has come to us through the Scriptures as collected, authorized and transmitted through the community committed to their authority. The Scriptures communicate this narrative through a large variety of means: 'historical, poetic, apocalyptic, story, motif, archetype, master image, prophecy, as well as fantasy' (Durriez). All of these means of communication rely to a varying extent on tacit knowledge. Rather than a source of propositional truths to which we need to give assent, the narrative of Scripture is the narrative which we indwell, the history of which we must become part. Newbigin draws the parallel here with the cultural-linguistic model of George Lindberg (7.2.2). The Scriptural narrative is what we must look through in order to understand our world.

It has been argued that the incommensurability principle leads inevitably to relativism. Although Newbigin agreed with Polanyi that there is no neutral ground from which to assess the truth claims of a conceptual framework, there are a number of criteria on which two different conceptual frameworks can be compared. Newbigin talks about the adequacy of each system to grasp and cope with the reality with which all human beings are faced (7.2.5). Presuppositionists talk in this context about the 'fit' of a worldview, but Newbigin means more than a mere fitting of theory onto reality, as it is linked to the faith-community seeking to find 'coherence, meaning and hope' within this narrative in the face of the 'sometimes apparently meaningless and chaotic events through which it lives'.

It may, however, be pointed out that people – and entire faith communities – can be made to believe and commit themselves to almost anything. Charismatics believe that God will heal all true believers from terminal diseases such as cancer and that seeking medical attention is sinful, Jehovah's witnesses believe that it is God's will that the faithful should rather die from blood loss than accept a life-saving blood transfusion, Muslim radicals have believed that Allah willed them to commit acts of terrorism and sectarians have committed mass suicide. We will therefore, in order to answer this question, not be able to remain in the purely descriptive but have to include prescriptive criteria. It would in this context be

interesting to see if what Polanyi describes as the three contributing factors of scientific value (4.1.1), ie, certainty or accuracy, systematic relevance or profundity and intrinsic value, have any correlates in the reasons to accept faith commitments. Let us consider the belief of some Charismatic Christians who maintain that it is the will of God to heal all true believers. Such a belief has great intrinsic interest, as believers share the fate of all humans in being mortal and subject to disease. It is this level of intrinsic interest that maintains the belief. However, if we consider its certainty (accuracy), it does not do so well: the reality is that even in the kind of churches where this belief is maintained, most of the faithful die from natural causes and do not experience healing. The natural inclination – as in every belief system – is to explain this within the framework of the system, and the belief will indeed allow this: the belief that God will only heal *true* believers. This works in the case of single instances of failure of the belief, but when such cases become the rule it becomes increasingly more difficult. Secondly, although the initial belief fits into the overall Christian framework, the epicyclic beliefs don't. A God who only heals true believers (where true belief is defined by being healed) becomes a rather parochial god – a representation of God that the Old Testament prophets emphatically protest against.

Polanyi's linking of truth to commitment has an important corollary in religious faith: It is what Newbigin refers to as the 'congregation as the hermeneutic of the gospel' (7.2 5). If, because of incommensurability between conceptual systems, mere logical argument will fail to convince others to join one in making the heuristic jump (or in theological jargon, convert), what will do so is seeing the ability of the new framework to serve as the dwelling place of a vibrant community of faith. That is the role of the Christian community – and for Newbigin that is the local church – in the affirmation of the truth claims that it makes. Stanley Hauermass once said,

> 'God's truth is credible to the world only when it sees a community shaped by the truth … if the gospel is to be heard, it must also be seen' (Quoted in McLaren, 2006, 33).

It is thus the public life of the Church that the truth of the gospel - truth held privately within the Christian community – assumes public credibility. History is full of examples of this, from the reluctant admission of the Roman governor that they 'even look after our orphans' to the praise of Kader Asmal for Luthuli's faith,

> 'Chief Luthuli, however possessed a remarkable generosity of spirit, although he was never intolerant of injustice. He was a Christian, with very deeply held beliefs, but his Christianity was the kind that looked to the model of Jesus throwing the moneylenders out of the temple' (Asmal, in Luthuli, 2006 edition).

Brain McLaren makes a helpful distinction here between credibility and plausibility (McLaren, 2006, 83). Credibility concerns the intellectual coherence and verifiable evidence for a conceptual system such as religious beliefs. Plausibility has to do with 'its beauty and satisfactions – balanced realistically with its costs and struggles – as it is lived out in real life'. Credibility answers the intellectual questions, plausibility answers the question whether one could live according to the conceptual framework, and whether one would like to.

In the introduction we have raised the problems of moral relativism. McLaren (2006, 87), summarizes these as:

- Relativism offers us no standards for 'stopping the crazies': it will treat Mother Theresa equally as those who poisoned citizens in the underground stations of Tokyo.
- Relativism tends to trivialize the very beliefs for which it promotes tolerance.

McLaren suggests the following 'counter-strategy'

1. Present Christianity 'not as one religious army at war against all other religions, but as one of many religious armies fighting against evil, falsehood, destruction, darkness and injustice', demonstrating respect and valuing the companions in this fight.
2. Call people to join a mission against evil, not merely evil 'out there', but evil in our own hearts
3. The Church must help people decide which mission to join, because this does matter. Where Christians believe they have better arguments and solutions than others, they will believe so with universal intent, and not only may but will indeed need to argue these arguments.

The importance of Chief Albert Luthuli as a role model for such religious counter-relativism is that he embodied all three of these principles.

8.4 Religion as Breaking Out - the Achievement of Polanyi in Understanding Religion

However, and both Puddefoot and Newbigin place at first sight much less emphasis on this than Polanyi, we must at the same time recognize that the Christian faith teaches that God cannot be contained in a conceptual system (6.2.2). We are reminded here of the poignant statement of Karl Barth that a certain way of evoking God's wrath was to become a theologian, because a theologian's business is to express truths about God in terms of a conceptual system. Therefore, Polanyi maintains, Christian faith is a 'sustained effort to break out, sustained by the love for God, a God who can be loved but not observed' (Polanyi 1964, 280).

Polanyi on the one hand and Puddefoot and Newbigin on the other seem to have reached opposing views of the place of religious knowing within the scheme of things. Yet, this opposition is more apparent than real. Polanyi's scientist is a person who indwells and at the same time breaks out. I am reminded of a statement of Francis Collins, head of the Human Genome Project:

> 'One of the most cherished hopes of a scientist is to make an observation that shakes up a field of research. Scientists have a streak of closet anarchism, hoping that someday they will turn up some unexpected fact that will force a disruption of the framework of the day' (Collins, 2007).

And yet, Polanyi argues, the scientists will never make a new discovery unless they at the same time indwell the science that they long to break out of. It is in this very tension between indwelling and breaking out that the scientist reaches out to the real and finds truth (4.1.1). The scientist who merely indwells will allow the theoretical framework to dictate where he is allowed to look, and therefore lose the capacity to see. Yet the scientist who would only break out without indwelling will simply not know where to look.

Polanyi suggests that in religion this breaking out happens in the religious experience of worship (6.2.2). This is in line with the schools of theological thought which date back to Friedrich Schleiermacher. The history of 'liberal theology' however has shown that religious experience in itself is a very difficult to define and at times dangerous concept if it is used as a sole criterion. How does the authentic religious experience of an adherent of a violent or

destructive sect differ from that of Ghandi? Religious experience is always experience of something, and the something that is experienced must be as important as the mere fact that something is experienced. Like the scientist who believes that in scientific discovery he is reaching out to reality, the believer, when making a religious truth claim, believes himself to be speaking in God's name. Newbigin points out that within the Christian community not religious experience, but the Bible has always been invested with the final authority (7.2.2). However, at the same time, the Bible in itself is not enough as the history of Christian doctrine illustrates. Christians have used the Scriptures to defend opposing doctrines, and an appeal to the Scriptures as final authority has not stopped the 'cultural captivity of Western Christianity'(7.2.6). Something more is needed. However this something more cannot come from outside of the Christian framework (7.2.1).

In science the tension between indwelling and breaking out is the reflection of the scientist's commitment to reality. In religion the tension between indwelling and breaking out is reflected in Newbigin's concept of contextualization (7.2.6). Newbigin places the notion of contextualization at the core of how Scripture conveys truth. Contextualization – rendering the gospel relevant to a culture which is foreign to it – is not merely a problem in foreign missions, but characterizes the entire enterprise of communication of religious truths. There is not such a thing as the pure gospel, something that merely needs to be translated into human languages (7.2.3). The gospel always comes to us through the frameworks of human cultures. These frameworks are pervaded with all that is excellent and all that is evil in human cultures. Therefore neither a blind acceptance of such cultural manifestations of the gospel, nor an outright rejection is in order, but a hermeneutic of suspicion – and, may we add with Ricoeur, of retrieval. As Newbigin puts it, the cultures meet with a divine Yes and a divine No. At the level of truth claims Newbigin envisages this to happen by the process of subversive fulfilment, within the triangle of forces between:

- The Scriptures as the final authority
- Myself as the knower of religious truth
- And the fellow-believer, in particular the one coming from another socio-cultural background, who will see through my accommodating compromises and will free me from my cultural captivity.

'Theology' – here placed between brackets as theology as a scientific endeavour is essentially a Western scientific exercise – can therefore not be left to the academic experts, but must be the business of the Church as a whole.

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