

*Man and
his
World*

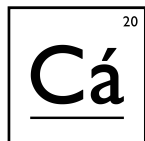
Prof D F M Strauss

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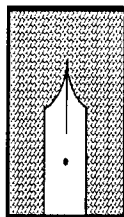
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Preface

From time immemorial man was confronted by the vastness of reality. Although wonder and awe accompanied man's cosmic consciousness almost throughout the gradual development of our understanding of ourselves and the world we live in, man increasingly ventured to rationally grasp the meaning of his own existence within the world.

Since the rise of the various special sciences this concern more than often became a victim of an overestimation of the capabilities of rational concept formation. Eventually it turned out that this rationalistic legacy is not itself founded in reason, but (as Karl Popper realized) in a *faith in reason*. Ultimately we are here confronted with the fact that philosophy and the special sciences are all rooted in certain direction giving life and world view commitments. Similarly, the special sciences are, both in terms of their history and in terms of the basic questions operating in them, dependant on all-embracing philosophical perspectives – a main concern throughout this book.

It is remarkable that amidst the variety of questions and problems confronting man's understanding of our world, the mystery of man himself constantly demands scrutiny and reflection – the reason why we deal with the uniqueness of man in Chapter 2. Only against this background do we proceed to an analysis of the remarkable interrelatedness of things, events and properties within the rich structural diversity evinced by created reality. Due to the fact that our analysis constantly engages itself in discussing issues which play a dominant role in the history of philosophy and the special sciences, those readers interested in diverse special sciences may frequently encounter unexpected relevant perspectives.

The Author

January 1991

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Chapter 1
Life view and Philosophy

1. Introduction

Although our school system and school curriculums only refer to philosophy here and there, philosophy is actually the mother-science from which all other sciences originated – including the subjects given at school.

Normally, the matriculated scholar is only vaguely aware of thinkers from Greek philosophy – figures like Socrates, Plato and Aristotle. Some may be only aware of an anecdote about some philosopher – for instance the story about Socrates who had to drink the poison goblet because he would mislead the youth.¹

The way in which philosophy has remained the foundation and basis on which the different areas of science (also known as special-sciences) have continually flowed, will scarcely enjoy attention in school teaching. Yet, we can only truly obtain a complete perspective on school subjects like mathematics, physics, biology, history, geography, languages etc. when we view these different subject areas from a philosophical perspective. On the one hand it provides an historical illumination and on the other hand, through such a philosophical angle, we become capable of revealing? the directing? and determining ground problems of every subject area. Additionally, we develop a sense of the melting pot of spiritual tendencies which were not only functioning on the scientific scene in a particular cultural time, but also what coloured and leavened the society of a particular time.

By illustration, we will give a short outlay of the influence of modern pessimistic nihilism which had such a striking impact on Europe and SA after the Second World War – through the so-called existential philosophy – especially on the literature and art of the sixties. In church teaching, this philosophical tendency led to an incredible accentuation of the uniqueness and “authentic” situation of the individual – who is personally and concretely within the “moment” addressed by God. What happens in society with its big organizational structures is not really important – only personal salvation counts.² The reac-

1. When he was given the opportunity to escape, he did not want to – to show that he was the BEST citizen of the Athenian democracy. He also wanted to indicate how evil the Athenian democracy had become – so bad that they didn’t even have place for their best citizen!

2. This view also became closely linked with the view which narrows our Christian life calling to a personal religious experience.

tion to this could not be avoided – resulting in a philosophical tendency which rebelled against this abstraction of the societal realities in which he/she stood.

The problems in different societies led increasingly to philosophers asking the question whether there wasn't also much evil locked in these societal structures, with their powerful organizational grasp on so many facets of the modern man's life. The most well-known result of this approach is connected to a philosophical tendency which was linked to the thought of Karl Marx in coalition with sociology – the so-called (neo-Marxist) *Frankfurter school*. From this angle especially, we received radical and very negative societal criticism – only the destruction and shattering of the existing structures (the so-called status quo) offers hope for a new future where freedom and games, pleasure and eroticism would be the daily routine of man. This can only be achieved – so reason these neo-Marxists thinkers – through a continued revolutionary process.¹ The effect of this philosophy also became tangible in SA. The seventies represents engagement for us – a theme which was even dealt with in a meeting of the SA Academy. And it would surely not be excessive to also see a connection between neo-Marxist societal criticism and the burning involvement of the different life forms (i.a. even the church) in the difficult political questions of SA in the eighties. In 1985 and 1986 it became increasingly clear that neo-Marxist perceptions gave direction to various white and black groupings.

However, this journey only touches a fraction of the reach and horizon of philosophy. It can be said that philosophy is aimed at the interconnectedness of everything in created reality – it gives us a complete picture, a total view on creation with its rich variation of facets, structures and facts. As of old creation was also depicted by the term *cosmos* – and from the Greek language heritage we also name the study of anything with the help of the suffix -logy (= -skill or knowledge). Subsequently, we can name the encompassing task of philosophy with the term cosmology.²

What is presented here is a guide for students who are confronted with philosophy for the first time. The intention is to provide a specific systematic perspective on created reality – coupled with a consideration of important problems from the history of philosophy which we are still addressing, and we want to show each student of philosophy that philosophical differentiations are not only meaningful and relevant for all disciplines, but can also open up illuminating perspectives for some of the most everyday situations and events.

1. Cf. the influence which this thought direction had on the student uprising in the late sixties.
2. The term ontology is sometimes also used – it is derived from that which exists – that which *ov*.

2. Life View and Science

Especially when referring to nature, we can easily refer to the order for nature or the orderedness of nature. Equally familiar are the expressions law and orderedness. However obvious these expressions may be, it is simply so that some tendencies in the house of science are not satisfied with them. The key question is **how** we see the origin of this order/law and orderedness/lawfulness. Modern biological literature in the grip of Charles Darwin's (evolutionary) theory of descent do not want to know anything about any order-variety. A prominent neo-Darwinist thinker, George Gaylard Simpson, states his conviction clearly, "Organisms are not types and they do not have types" (1968:8-9). This approach flourishes in the philosophical thought climate of the West, which departed from the Biblical creational faith especially from the time of the Renaissance (15th century A.D.).

This remark highlights something important: *all* forms of science – philosophy as cosmological-totality science and all sciences – rest in the final instance on specific life view choices. To form a better image of the way in which life view convictions function, we begin by pausing for a moment at the question: how do we know the will of the Lord.

2.1 The Will of God

Christianity has wrestled with this central question in our Christian life and world view for the past two thousand years. How should I shape my life? Naturally according to the will of God! But *what* is the will of the Lord in concrete situations in our daily lives?

The answer seems simple if we just ask: what does the Bible say? It is virtually standard practice within our Christian tradition that this question shows that the Bible really has the guidelines/principles/directions for our lives and that the answer on the question: what does the Bible say? can only be found if attention is given to specific (con-) texts. Is the Reformation not correct in its valuation of the Bible as the norm of our faith life? Naturally the subsequent uncomfortable question which can be posed against this is whether the Bible gives decisive answers for every facet of our modern and complicated lives? Does the Bible really say anything concrete about the nuclear energy which is hidden in the atom and the catastrophic misuse man can make of it? Does the Bible say anything about apartheid? Does the Bible say anything about human rights? What about problems like inflation, technocracy or the power of modern organization and communication? Which texts would we have to present to find decisive answers about these and many other problems of our day?

To put it another way: is it fair to come to the conclusion that if no appropriate texts about a specific issue are found in the Bible, the Bible has *no* authority over that issue or terrain of life? At this point something important becomes clear: if the authority of the Bible was dependent on the fact there

was a directly applicable text about every possible situation and every possible facet of life, it would obviously imply that the Bible did simply *not* hold authority over the complete life of man because it cannot be denied that there are many issues about which we find no direct texts in the Bible. This impasse shows us that we could possibly be the victims of a false (and un-biblical!) expectation of *what* precisely the Bible is and what it offers us!

It is precisely the problem we posed in the beginning which makes it possible for us to expose the critical problem in this false expectation of what the Bible actually is.

Let us approach the matter from a completely practical angle: could we say that the heavenly bodies answer to the will of God in their movement? Is it part of the will of God that pregnancy in humans normally lasts nine months? Do logically correct arguments answer to the will of God? Could we say that God expects us to be thrifty; to be alert; to act with style; to be upright? etc.?

In the old Testamental wisdom literature, the insight which this concerns is placed within the context of the wisdom of God which is shed over creation. The Law which God set for all his creatures is his actual will for creaturely existence – in the reformational philosophical tradition it is also said that creation is grounded in the sovereign creational will of God (cf. the poetic worship of Rev.4:11 “because You created everything; through Your will everything came into being and was created”).

On the grounds of our Biblical creational faith we accept that God has established his law for being a creature (cf. i.a. Ps.148 and 119).

Every creature displays its being subject to God's law by acting in terms of the law – i.e. by functioning lawfully. The commands which God established for human life do not naturally possess a natural law character, but a normative nature, i.e. it approaches man in the form of principles (rules/requirements of: ought). That is why we know of both lawful and unlawful actions (anti-normative deeds) as a result of the fall.

Even in the Old Testament we find beautiful contexts where it seems evident that the orderedness of the creatures serves as a connecting point through which to understand the will of God for being a creature (i.e. God's creational law).

In Joshua 28:26 ff. we learn that God gave man the knowledge to do things as they should be done; black cumin and cumin are removed with a stick; grain is ground for bread; a.s.f. Things should be handled in *this* or *that way* according to their God-given nature. Thanks to the *orderedness* of these things we find the path to the order which God established for things! Through this, God teaches us how we should deal with his creatures – taking into consideration His will for their existence.

The most striking thing here is that there is no specific Bible verse which tells us more about the nature and handling of cumin and grain – God brings us

this knowledge by the fact that He maintains his law in his providential faithfulness, in that we can trust his providential maintenance of his will for being a creature.

If we were to ask: how can we find knowledge about the law for the atom? the answer is clear, considering the above light the Bible has shed on it: not by investigating some or other text in the Old and/or New Testament, but to investigate the *orderedness* of concrete atoms in complete heart commitment and acceptance of the Biblical perspective of God as the Law-giver! In the atom-ness of every individual atom the particular atom exhibits the universal way in which it is subject to the (universal) God-established law for atom-ness.

A few years ago, during a visitor's lecture at the theology Faculty of UOFS, prof. Gordon Spykman¹ used the following striking example:

If we possess the task of finding God's Law-Word for the development of a child, it won't help looking for specific Bible verses. What must be done is to study the orderedness of children-in-development, because it is solely through this method that we can find insight into the law God established for child-development.

The highly acclaimed Western technological advances are only possible thanks to the provident faithfulness with which God keeps up His law for creaturely existence. Every tool reflects the given reality that the orderedness of God's creatures brought man's technical fantasy on the path of God's law for these creatures which, with the help of this specific tool, can be controlled. This is directly connected to the human God-given cultural task, viz. to fill the earth, to subject and control.

A question which could clearly crop up here is: isn't the sinfulness of man a serious obstacle in this regard. How do I find God's will for my thoughts if I am confronted with illogical formation of concepts or figurations.²

The remarkable part here is that the identification of an il-logical argument is only possible in that an appeal (even if only implicitly) is made on the logical norms established by God for our thoughts. Actually, only if we use logical norms as the measurement for judgement can we say that a specific argumentation is illogical. Sinful disobedience never escapes the God-established principles to which it remains subject – at most it can parasitize on it in disobedience! The Scriptural Word refers us to God's Law-Word, i.e. his Creator's will which determines and delimits the existence of all creatures, under which the human existence in all his life activities and life forms falls. Whoever realizes from this Scripturally-founded perspective that God refers us to His Law-Word through the orderedness of His creatures, does not have

1. Professor in Biblical Studies at Calvin College (Grand Rapids) in the USA.
2. Compare the well-known example of an illogical concept: “square circle”, from the British mathematician and philosopher, Bertrand Russell.

to be embarrassed when having to defend the principal task of practising science at a university.

For the practice of science, this Scripturally-founded perspective on the law and lawfulness (order for and orderedness of) within creation is of conclusive importance – both because it also calls us to an honouring of the order-variety within creation which cannot be negated without our thoughts running into a serious (theoretical) antinomies (contradictions, anomalies).¹

Naturally, the Christian life and world view is not the only spiritual power active in the history of Western civilization. In opposition – and often parasitically – other life view traditions stand. Using historical data, we will now look at the problem of *interest*.

2.2 Life view divergence – the example from the Old Testamental interest-ban

Within the context of Israel's life as the Old Testamental covenant people, there was a ban on charging interest to a fellow Israelite – interest was allowed to be charged to strangers (foreigners) (fr. Deut.23:20). Charging interest to a fellow Israelite was a transgression of the commandment "you may not steal" (Deut.5:19). Despite the fact that the Old Testamental constitution – which was prefiguratively referential – was finalized and fulfilled with the coming (crucifixion and resurrection) of Christ, the Roman Catholic church tradition wrongfully clung to this interest ban throughout the Middle Ages. Those who do business in the market place (buying and selling) are busy with an inferior sphere of economic gain – a less holy practice upon which someone who moves on the elevated level of morality and spirituality must look down. Only the spiritual-moral life of man could be part of the saving grace in Christ, according to this Roman vision – a grace sphere which embraces the church institute (as supernatural grace-institution) and which is entirely elevated above the less holy "natural (worldly) life" of man – where everyday actions (like economic business) take place.² This life view division of life rests on the central Roman ground motive of nature and grace (supernature).

The meaning of Christ's work of salvation is reduced to the supernatural grace sphere to which Christianity is delimited (for Rome, church = Christianity). The practical effect of this ground motive division of life was ex-

1. We will not go into the fact that the Bible offers many expressions of obedience which also indicate to the God-established Law-Word of man.
2. In a medieval legend we learn of a person who found demons in every nook and cranny in a monastery, but to his surprise, found only one demon on a tower in the marketplace. When he expressed his surprise to a cleric he was given the following explanation: There is a greater need for demons in a monastery because many are needed to seduce the monks. At the marketplace however, one is more than sufficient, because everyone there is already a devil! This legend shows clearly how negatively the middle age Roman tradition evaluated the mercantile estate. (Cf. Goudzwaard, 1960:137).

pressed in many contradictions which we now know only too well : sacred (holy) versus profane (worldly/earthly): calling versus career; church (-institute) versus world (non-church life forms like the state, business and university); theology versus philosophy; spiritual versus temporal; sacred versus everyday; eternal life versus temporal life; soul versus body; faith versus reason; and so forth.

It is particularly notable that virtually all reformers of the 16th century were in favour of the continuation of the interest ban – with one exception: Calvin! He was the only reformer that realized that there was nothing in God's creation that was inferior or which was created sinful. God the Father, who in His omnipotence, created a good creation – a creation which, through the Word, carries God's power (Heb. 1:3) and a creation which tells of God's honour and proclaims the work of His hands (Ps. 19:2). Man is created as the crown of creation and (as fellow worker with God) is crowned with honour and glory by God. (Ps.8:6, cf. also Heb.2:6-8). Through the effects of sin, everything which God created is drawn into service of the idol which mastered man's heart and to which man gave himself in self-deceiving piety. The result of sin is that every good creational talent is misused through the sin in man's heart by disobedience and apostasy. No sinful misuse of the creational talent ever abolishes the God-obeying and correct use of it. However much man is guilty of economic malpractice and waste, or hate and enmity towards his fellow man, he remains called to be thrifty in the economic use of things in creation (incl. the precious and irreplaceable resources on earth), or to act in a loving and respectful way towards his fellow man.

Precisely because Calvin took the encompassing nature of the good creation¹ seriously, he could answer to the impact on the entire creation. Sin did not just affect one specific terrain of human life, but led man, in his heart, and therefore in all his expressions of life and life forms to apostasy. Therefore the sinner's heart of man brings disobedience to God's creational will on every terrain of creation.

Let us take a closer look at this fundamental statement for a moment. Man is brought to disobedience to the creational requirements of God through sin for our logical thoughts (as seen in sophistry and contradiction), for our cultural formation (history teems with revolutionary and reactionary tendencies – and obedient reformation is seldom encountered), for our social dealings and activities (indecent, thoughtlessness and rudeness so often dominates our social activities), for our love relationships in their various expressions (discord, quarreling, hate, jealousy and tension in spheres where we are called to marital love, family love, love for our country etc.), and even for our religious (faith) life (on the one hand sin leads us to the service of idols and

1. Bohatec emphasizes that Calvin considers all estates equal. All estates are equal in God's sight, the relationship of the merchants to God is not mediated by the clerical "spiritual estate", because, for Calvin, the way to God's grace was no longer blocked by the salvific mediation of the church institute.

on the other hand the Christian accepts how sin undermines the vitality of his faith, smothers sacrificiality, undercuts his willingness for the formation of correct faith distinctions and often leads to loveless lack of warmth for his fellowman). Only when the full implications of the impact of sin in the life of man is fully realized, is there room for an understanding of the full implications of the impact of the creation-wide salvation in the life of the reborn Christian. Only then can one realize with Calvin that there is not a single terrain of creation which is not part of the encompassing (total) and freeing meaning of Christ's work of salvation. Thanks to Christ's gracious redemption, the reborn man (even as saved sinner) can once again come to obedience to God on every terrain in creation in service to the Great King of creation, who rules over everything – and also over the total life of the redeemed.

Precisely through salvation, the reborn, the new elect race of God, answer, in obedience to the requirements of God for being a child of the Kingdom, for being a citizen of God's Kingdom, on all life's terrains. Everything man does, whether he eats or drinks or does anything, (cf. Cor.10:31 and Col.3:17) is therefore kingdom work which should happen in obedience to God's will. Therefore it was completely Biblically true for Calvin to restore the nature of economic labour to its original place – according to Calvin, every career is a calling, a God-given task which can be carried out well or badly. Compared to Luther, Zwingli and other reformers, Calvin did pioneering work through the removal of the interest ban and the honourable reinstatement of the economic terrain of creation, which was of conclusive importance for the economic development of the west during the past four centuries. The economic flourishing of the Protestant countries of the past – think of the "golden age" which the Netherlands experienced in the 17th century – is a direct result of the fact that Christians fulfilled their economic calling in a renewed and responsible fashion – no longer viewing this terrain as inferior and as belonging to the lower natural/worldly life of man.

Of course the modern rejection of God, which places man central (idolized), viz. humanism, warps this healthy economic development and makes it subject to the sinful urge of man, to his selfish and greedy materialism. The fathers of modern capitalism proclaimed unabashedly that economic salvation and prosperity for all people could only occur when everyone was allowed to pursue their own interest in an unrestricted and optimal way.

At the beginning of this century, Max Weber achieved fame with a writing¹ in which he distinguishes the puritan work ethic and sober lifestyle as one of the causes of modern capitalism, understanding it as a consequence of the characteristic worldview of the Reformation (Protestantism). The puritan work ethic of the English worker was described strikingly with the expression:

1. *Die protestantische Ethik und der Geist des Kapitalismus* – originally published in a social sciences journal in 1904 and 1905.

worldly asceticism (innerweltliche Askese) – from which it is apparent that he still signifies the nature of the Christian in Roman Catholic terms. Additionally, since then various authoritative studies have appeared in which it is proved that the fundamental ideas of Calvin can hardly be seen as the point of departure for the humanistic accent on self-interest and greed which is at the root of Western capitalistic materialism.¹

The exploitation and excesses to which this humanistic selfishness led, degraded the worker during the Industrial Revolution (at the end of the 18th and beginning of the 19th centuries) to such a degree of vulnerability that it gave rise to the socialistic reaction of Marx's communistic life view. In our day and age every Christian is impressed by the life importance and danger of the ideological powers of our day – the capitalistic materialism of America on the one hand and the socialistic materialism of China on the other.

Those who realize that the original nature of capitalism, as preached by the well-known American economist Milton Freeman, the Austrian Nobel prize-winner Von Hayek and the South African economist prof. Jan Lombard, historically gave rise to the modern trade union movement, the labour parties and communism, would be much less disposed to the unqualified acceptance of the capitalistic free-market system – in practise it comes down to the fact that we can only really fight the communistic attack through its long-term support!

With the help of this historically-coloured factual explanation of the development of the problem surrounding the Old Testamental interest ban, we have seen not only the ground elements of the Roman and modern humanistic life and world views, because at the same time attention could be paid to the essential characteristics of our Christian life and world view. To sketch this more clearly, we pause at another ground pillar of our Christian life and world view.

3. The heart of the gospel

When we confront the continuing Roman influence on our society with the requirements of the Christian life and world view, the question arises whether the Bible recognizes a division of life into a lower worldly (natural) life (the non-church life terrain) and an elevated spiritual (church-institution) grace sphere. The central message of the Bible, after all, is the kingdom (basileia) of God (his lordship over everything – cf. Ps.103:22 and especially the four gospels where the term *basileia* appears about 100 times). At first, the kingdom of God refers to the full stretch of God's lordship in Christ over sin-

1. In mitigation it must be said that Weber himself warns against a too simplistic approach which claims "that the spirit of capitalism ... could only have arisen as a result of certain effects of the Reformation, or even that capitalism as an economic system is a creation of the Reformation" (1970:91). On the same page he adds: "In itself, the fact that certain important forms of capitalistic business organization are known to be considerably older than the reformation is a sufficient refutation of such a claim."

less creation. After the fall, it refers to God's rule over the believer and unbeliever, and from Christ's crucifixion and resurrection, it refers on the one side to the coming kingdom of God and on the other side to the lordship of God in the reborn hearts of the saved. Where people reborn in Christ live in accordance with God's will – whether they are eating or drinking or doing anything – there the kingdom has already come.

Creation embraces both the creatures which God created as well as the order from God for creature-ness – the creational Law-Word of God to which the Bible refers as the genuine and reliable Scripture Word. We have seen briefly that not only natural laws belong to the creational order (cf. Ps.148), because the ordinances and commands of God (his Law-Word) which normalize every facet and life form of man has been given as the creational will of God – it contains God's kingdom-will for being human – as it is summarized in the constitution of the kingdom: the requirement of service of love to God and neighbour with one's whole heart. The differentiated variety of commands spring from this root-law which God established for the different facets of human comings and goings.¹

The opposition (antithesis) of sin and salvation (evil and good) shows the direction distinction within the good order of God's creation: for or against Christ on all life terrains. Sin gives (as we have already seen) an idolatrous direction to the possibilities of creation – think only of illogical thoughts, wasteful activities, unjust actions, the formation of unbelief (e.g. a mosque), etc. On the other side salvation in Christ frees us from the creationally-wide rule of sin and calls us to turn away from evil and out of fear of the Lord in all terrains of life, to live His will in obedience (cf. Job 28:28; Eccl.6:16 and Rom.12:21). Christians and non-Christians do not live in two different worlds (terrains) but in one and the same creational order of God. Christians and non-Christians are not separated by the creation in which they (communally) live, but by the opposed directional choices from which they live. Christians and non-Christians do the same sort of things – but they do them differently, i.e. from their different direction orientations.

We strip the Biblical meaning of creation, fall and redemption of its power if we identify the directional distinction between sin and salvation (evil and good) with the well-created structure of creation. It leads unavoidably to an unbiblical dualism which identifies sin with a specific "area" (terrain) of creation (eg. the non-church life forms like the state, business, nation, school and university as the "world" which as Christian faith consociation forms the opposite of the "natural sinful world"). In radical contrast to each dualistic view,

1. Note that this variety of commands cannot be deduced from the encompassing meaning of the love commandment – it only offers a differentiated specification of it. When the commandment for neighbourly love requires that one must love one's neighbour as oneself, it does not imply that you must love your neighbour's wife in the same way as your own wife! The specification of God's Law-Word for the different facets of a person's life can simply not be deduced from the central love commandment.

the Bible teaches unambiguously that on every terrain of creation, we must turn away from evil by obeying God's will. In other words: salvation does not mean moving away from any terrain of life, but precisely the moving onto every terrain – in order to then turn away from evil by proclaiming God's kingdom. Therefore we could say that where all non-Biblical ground motives distinguish between the well-formed structure of creation and ignore the direction-contrast between good and evil, the Biblical ground motive is the only one which can be called the motive for the distinction of *structure* and *direction*.

3.1 The directional dilemma of science

Al Wolters points out that the development of Western philosophy was consistently a victim of what he calls the "metaphysical soteriology", i.e. a philosophical theory of salvation. Besides the task of analyzing and making appropriate differentiations about the variety in creation, popular philosophy every now and then saw philosophical thoughts as a way to holiness, to a virtuous life (Plato), as a lifestyle which led to good (Plotinus), to come to rational self-perfection (Descartes), to change reality through philosophical thought activities (in a heaven on earth, the worker's paradise – Marx) etc. The role which the many philosophical tendencies fulfill is to localize the source of evil somewhere in reality and to lead man to a domain of safety, integrity and even salvation.

Remark: At this point we come across the many root-symbols which signify these supposed created places of rest for man's restless heart. Think of the drawing power of such "shelters" as happiness, prosperity, wealth, success, freedom, and so forth. My colleague, dr. Johan Visagie, talks with justification of "pastoral shelters" – i.e. places from which man in his deepest insecurity and lack of rest can apparently come to rest. One thinks of the great Dutch historian, Huizinga, who asks in his work *Geschonden wereld* whether art could not bring about renewal in the sunken Western culture. The late D F Malherbe recognized this as an overvaluation of the aesthetic aspect of reality, "Art cannot be a lasting city for the restless heart of man. Art can give passing satisfaction, momentary joyous experiences, but art itself is caught in turmoil, by nature referring us to Him who is the Origin of all things" (1947: 85). In his *Confessions* (written in 400 AD) Augustine already emphasizes this foundational Biblical truth: the human heart knows no peace before it comes to rest in God.

The Bible does not localize evil in a terrain, but in the apostate direction of man's heart, while salvation is equally a directional matter (seek the Kingdom of God – on every terrain). If we look at philosophy (and the different existing special sciences) from the depth perspective of worldview, the most remarkable fact is that we are constantly confronted by what we could call a surrogate salvific appeal. In other words, we are confronted with a way of liberation, with a call to move away from one terrain of creation to "the kingdom of freedom/virtue/self-perfection/goodness/autonomy" etc. That means that the

directional contrast between good and evil is understood in structural terms, i.e. is identified with specific opposed terrains. For Greek philosophers, evil is found in the material; for the existential philosopher of the 20th century, in societal structures which threaten the individual freedom of man; for the neo-Marxist and the social conflict theorist (cf. Hegel, Simmel and Dahrendorf) in the authority structure of life forms; for other thinkers in the supposed inevitability of natural causality, and for others in the appearance of freedom which man is supposed to possess. This apostate style of practising science – in philosophy and in special sciences – still indicates the way to good, to the meaning of life and to freedom, according to Wolters – in short, the path to salvation – as the escape from one terrain of creation to another terrain of creation: for example by moving to rationality, to forming, to the collective whole (of the nation, the state or the church), to freedom etc.

Each of these ways to salvation rest on a misvaluation of a well-created part of creation with an inner inevitability, on a depreciation of something in creation (a fundamental characteristic already of the ancient heresy of gnosticism), while at the same time coming to the idolization (absolutising) of something in creation – a point of departure of all idolatrous service which brings honour, meant for the Creator, to a creature.

Remark: Wolters concludes correctly: "It is in this feature of traditional philosophy, which I have called the 'metaphysical soteriology' (and which has been blunted but not completely eradicated, in most Christian philosophies) that its religious nature comes most clearly to the fore. In my view, it ought to be a mark of philosophy which seeks to be as radical as the Bible that it renounces this whole enterprise, and simply accepts, as a point of departure, that every creature of God is good, and that sin and salvation are matters of opposing religious direction, not of good and evil sectors of the created order. All aspects of created life and reality are in principle equally good, and all are in principle equally subject to perversion and renewal" (1981:10-11).

3.2 Unity and variety

Because rebirth – as passport to God's kingdom – touches the root (i.e. the heart) of the existence of the Christian, it cannot be identified with a specific sector (terrain) of man's life.

Membership in the church as institute does not encompass all my life's relationships – I also act (still as member of the church) in other capacities – for example as Christian parent, Christian spouse, Christian lecturer and so forth. If the new root of being a Christian – being reborn in Christ as a branch of the true vine¹ – is identified with a divergent expression of his existence

1. Note that rebirth in Christ, although it does claim the heart of the individual person, is not just an individual matter, because the Bible constantly stresses that those who are reborn in Christ belong together to reborn humanity, the new elect race of God, the shoots of the True Vine.

(viz. his membership of the church institute) we must – that is if we are consistent – with Rome, "churchify" the whole of our lives rather than "Christianize" our lives.

If salvation (rebirth) isn't just a sector or terrain of my life, but includes all the divergent expressions from the heart (the root) which enhances all of my life, then this primary root-encompassment of the saved (reborn, elect) in Christ as the new nation of God (reborn humanity in Christ) cannot be identified, as Rome does, with one of the many creational life relations of man, viz. the church institute. I do not act in marriage, family, state or university as a "reborn church member", but as a spouse, father or lecturer reborn in Christ. Also in the church institute, I can only act as a member reborn in Christ.

When the New Testament refers vividly to the joint close connection of the saved in Christ – for example as the bride of Christ, the elect, the body of Christ etc. – we must constantly establish from the context whether it is used simply as an indication of a specific (even though relatively undifferentiated)¹ branch in the lives of the reborn (for example, when they interact religiously) and when it is a radical (penetrating to the root), central (reaching the centre of man's life) and a total (all inclusive) meaning, indicating the rebirth to kingdom service on every terrain of life of the new humanity (as royal priesthood, elect people, a holy nation – cf. 1Pet.2:5 and 9). This total root meaning is found, for example, in Eph.1:22 and Col.1:18, as well as Matt.16:18. The same applies to opening statements in Paul's epistles where a radical, central and total (i.e. RCT-) meaning of the nation of God (the elect) is proclaimed. Cf. also 1 Pet.1:1ff. where three RCT-indications are found in the first four verses (namely: strangerhood, election, and rebirth). Unfortunately, in the latest Afrikaans Bible translation in such central contexts the word is translated without qualification with the word "church". In such contexts, confusion could be avoided with a more literal translation, for example with the word "elect". That way the reader can avoid the danger of incorrectly identifying the central relation to Christ with the church as institute (as one life

1. An extensive quotation from Paul Schrottenboer, previously secretary of the Reformed-ecumenical Synod, is applicable. It concerns the differentiation between the church institute and the new nation of God and it illuminates simultaneously the relatively undifferentiated nature of the New Testamental society: "We must distinguish between the people of God, the Body of Christ, the new Nation, the holy people, the pillar and ground of the truth and the institutional church today. This is a necessary distinction. However the new Testament did not make this distinction for there was yet no such thing as the 'institutional' church, as distinct from God's people's activity in labour, commerce, education, and the state. To an extent they were busy as Christians in all their ways if living (more consistently than Christian people are today). *But these differences were not institutionalized.* These 'areas' did not yet exist as distinct societal zones. The lines between church and school were not yet visible. Church and home were also much more closely related, judging from the fact that the people of God were sometimes identified as the church that met in a certain man's house. The people of God was then at a very early stage. Right from the start they were organized, but they did not have a distinct organization for worship, for their cultic activity" (1971:110).

relationship next to and in distinction from others which are similarly rooted in the new humanity).

When, for example, we hear of our unity in Christ, it shows that being reborn is not a singular relation – the New Testament emphasizes the common relationship of the reborn in Christ – that is where the expressions like the body of Christ etc. come from. Often when these and similar expressions are used in the New Testament, it refers to that one all-governing relationship in Christ in the life of every Christian which can only be called radical (R), central (C) and total (T). The appropriate abbreviation which we have already used above is: RCT.

Every other relation of which man can be part, is, although rooted in this central RCT-relationship, still differentiated (a branch of the root) (D), peripheral (standing on the edge and not in the centre of life) (P) and partial (P). A number of DPP-relations (being a Christian spouse, being a co-religionist, being a student etc. – contra being a non-Christian spouse, co-religionist, being a student, etc.) stand against the one primary RCT-relation (being a Christian or a non-Christian) of being human. Only if the church institute encompassed my life radically, centrally and totally (as Rome teaches), would it be qualified to be the true RCT-relation in my life. This is scarcely the case, because although I do not stop being a member of the church in other DPP-relations (like fatherhood, state citizenship, ethnicity, etc.), I never act in any of the non-church DPP-relationships in my position as church member – even the preacher must constantly act in other capacities, for instance as spouse, parent, citizen, Afrikaner, purchaser, art appreciator in the theater, language-user in social interaction, etc. Conversely, the same perspective applies: although I do not stop being an Afrikaner, lecturer or spouse when I am politically or ecclesiastically occupied, I still never act on political or church terrain as (i.e. in my capacity of) Afrikaner, lecturer or spouse.

The tendency which exists in our theological tradition to misindicate the Biblical kingdom's gospel as a central institution, does not only continue a Roman element (with the two-terrain teaching which flows from it), but also fails to recognize any collective RCT-indication in the Bible (for example, the mentioned Eph.1:22 and Col1:18).

Remark: Although prof. Johan Heyns maintains that the kingdom is primary, he incorrectly identifies all other collective RCT-indications with the church institute. Luckily, he does it in an inconsequential way – cf. Strauss, 1980:256-259. This flawed identification caused him serious embarrassment in a Sunday evening TV-debate (June 1987) with dr. Willie Lubbe. He expressed his concern about the origin of the Afrikaans Protestant Church who split from the body of Christ. Dr. Lubbe immediately reacted by saying that they had not left the body of Christ, but only the N.G. Church! Since the reformation the protestant church denominations have struggled with the question of how

the traditional Roman identification of the church institute with the body of Christ can be overcome – but still fall into the same traps.

3.3 The discussion about church and society in South Africa

During the last few years we notice clear differences on the theological front about the relationship between church and society. On the one side we find those who think that the many “natural differences” between people (concerning their race, cultural group, language grouping, political affiliation and so forth) are not removed by the “grace” in the church as organization (institution) because we experience a special (“supernatural”) unity in Christ. On the other side, starting with our primary unity in Christ – also understood in terms of the institutional church (i.e. DPP instead of RCT) – which is normative and must serve in churchly unity as an example of reconciliation for the “sinful world”, which must be followed up with reconciliation in civil, economic, ethnic, and racial areas as well¹ In reaction to the “Open Letter” of 1982, a piece appeared edited by D.J. Bosch, A. König and W.D. Nicol: *Perspective on the Open Letter* (1982). P.F. Theron says there that the strangeness, the uniqueness of the church is not taken into consideration. He anonymously refers to my accusation (letter in *Die Kerkbode*, June 1982) that the *Open Letter* operated from the nature-grace dualism, but unfortunately also reacts to my complaint from a dualistic position. On the one hand he incorrectly thinks that the RCT-relationship of being a Christian only denotes an individual believer's relationship with Christ for me, and on the other hand he thinks, with regard to my viewpoint, that grace loses out “in favour of nature” (p.129) – without his sacrificing the false dichotomy between two terrains (nature/grace).² That explains the following totally incorrect reflection of my own point of view: “There is (thus the criticism) only one fundamental relationship, namely the reborn individual's relation to Christ. All other relationships are secondary and must find affiliation in creation not in recreation. That applies to the church which as the Christian faith relation which is put in one line with all the secondary creational life consociations like the Christian family, the Christian nation and even the Christian political party” (128). The RCT- and the DPP- dimensions both belong to creation. As a result of sin, man was led centrally to the worship of idols – an idolatrous tendency which is expressed in all idolatrous DPP-relationships. Because of redemption in Christ, the new (reborn) humanity (and not only the “reborn individual believer”) is aimed from the root (i.e. RCT) at service of God with the whole heart, in all (DPP) life relationships which come from the redemptive (“grace”) God-orientation.

In other words, Theron still identifies DPP and RCT with creation and redemption respectively: a demonstration of the nature-grace motive! To

1. The well-known *Ope Brief* of 1982 chooses the latter path, while the current “apartheid theology” follows the prior path.
2. “Mercy”/“salvation” does not oppose “nature”/“creation”, but opposes the sin in creation.

repeat: both the DPP- and RCT- dimensions belong to the good order of God's creation within which the antithesis between sin and redemption is visible. As a result, just as many sinful (idolatrous) RCT- and DPP- relationships exist as Christ-reborn and God-directed RCT- and DPP- relationships in the elect nation of God (the body of Christ).

The nature-grace split of life as well as the accompanying limitation of the meaning of Christ's salvation to the sphere of the church institute (i.e. both approaches are church-centred) underlies both extremes in our theological discussion. The only difference which exists, based on this fundamental similarity, is found in the question of what the relationship between the two terrains of grace and nature is: the first view starts with nature and ends in grace¹ while the other extreme begins with grace and wants to end with nature!

If we want to measure and confront the Biblical implications of the above-mentioned explanation of RCT (indeed the ABC of the Biblical gospel of the kingdom!) in this theological dilemma, we must stress anew that our central and all-demanding (RCT) unity in Christ on every terrain of God's kingdom coinciding with its creational unique nature (sovereignty in own sphere) ought to be expressed – without any DPP-relation as substitute for our Christ-provided RCT-unity ever being seen, or identified therewith – it would come down to an exchange of root and branch. With this we would be freed from the haunting Roman conception that our central unity in Christ only possessed implications for the church institute.²

Because our central unity in Christ is not the result of any human activity (it is given by Christ), a serious question mark must be placed over attempts to organise this central unity *visibly* on any DPP-terrain. What **can** be organized, is the implications of the Christian calling on a particular life terrain – but even then, the unity which we bring about on a particular terrain may never be identified with the central unity which we all share through the power of redemption. How can we make our unity in Christ "visible" on a terrain like marriage or Christian politics? Must we uphold a macro-polygamous/-polyandrous marriage?

The church institute possesses the calling to spread the creationally-wide Biblical gospel of the kingdom in a unique ecclesiastic way. If faithfully done, the church will make an essential and invaluable contribution to the reintegration of the life vision of Christian people which was so flagrantly disarmed through the continuing Roman dualistic heritage. Then the church members will realize that the message of the gospel is not the church institute, but the

1. This is faithful to the statement of Thomas Aquinas, the supreme medieval master of Roman Catholic thought (1225-1274), that "mercy" does not abolish "nature", but completes it – *gratia naturam non tollit, sed perficit*.

2. Note: "has implications" does not mean that we can ever organize the central religious unity on any DPP-terrain. On the basis of this radical solidarity, Christians can only organize different-natured DPP-units.

kingdom of God which still calls forth its correlate – the citizens of the kingdom, in the RCT sense of the word. God's kingdom government in Christ over the lives of the redeemed, includes all terrains of society – also that of the church institute. When the church fulfills its task in this way, its members will be encouraged and enabled to express their Christian calling on terrains like Christian politics, Christian business and economics, Christian science and art. In the Report which was delivered about "Church and Society" at the General Synod of 1986 (Dutch Reformed Church), the status of the believer, the encompassing nature of the Kingdom and the Kingship of Christ on all life terrains was correctly stressed. Unfortunately, there are quite a few "2-terrain ideas": "church" and "world"; the church as example; even explicitly the statement that, against the societal structures which come from creation, the church is the only societal structure which is a fruit of God's re-creation. This nature-grace deviation also explains why almost throughout there is talk of "making our unity in Christ visible" in such a way that our RCT-unity in Christ is clearly being identified with the DPP-unity of the church (-institute) as faith community.

3.4 Key questions for all Institute-centrism and dualism

We can trap any dualism, which usually all on its own identifies our collective rebirth in Christ, as branches of the true vine, with the church as life form with the following two questions:

(a) Is sin a terrain of creation? and

(b) How do we define the borders of the church?

What does question (a) imply? From what we have said so far, it should be quite clear by now that no **one** terrain of creation is sinful as such, however much the fall from God is expressed on every terrain of life. If we want to claim that one terrain of life is sinful, we must be willing to show which terrain this is. Is it the economic terrain, as Rome believed? Or is it the terrain of science, like the revolutionary utopian thinkers of our century believed, (like Hearer Marcus, Claus Koch, Robert Jungk and others)? If the answer to any similar question is "yes", then it means that we were saved by Christ from that particular sinful terrain, and are then freed to move to the "terrain of salvation" – the latter then necessarily being the sphere of the church institute and morality. Salvation means that we must move away from the "terrain of sin" and move to the "terrain of grace (salvation)". When we hear references in church to the "sinful world out there", there is a subtle but unmistakable terrain distinction: **HERE** is the terrain of grace and salvation and **OUT THERE** we find the terrain of the sinful world!

Those who are serious about the Biblical distinction between good and evil (cf. Job28:28 again), realize clearly that the good/evil antithesis is a *directional* antithesis within the well-made order of God's creation. If sin finds expression on every terrain of creation, then it means too that salvation applies to all

terrains of creation. In other words: neither sin nor salvation are terrains in creation, because both express a heart orientation in man which is radical, central and total (RCT) and which consequently have meaning across the entire width of creation. No dualism – but a Biblical perspective on one terrain, creation (the kingdom of God) with two directions – idolatrous or obedient to God.¹

An answer to question (b) would show us unambiguously whether our thoughts are caught up in the central Biblical ground motive of creation, fall and redemption, i.e. if we believe in the distinction between structure and direction. In principle, there are two possible answers to this question about the borders of the “church”:

- (i) we can firstly give a definitive indication which refers to the nature of the church as a life form distinct from other life forms (like the state, business, university, etc.) – then we are delimiting a societal structure;
- (ii) secondly, we can define the church by giving the direction – then we indicate the fundamental antithesis of direction, present in the structure of creation since the fall, between the kingdom of God and the kingdom of darkness, or, between those who are part of God’s elect and those who are not. This second delimitation regards the RCT-dimension of creation, while the first one focuses on the DPP-dimension.

Even within the reformational tradition, the view exists that we must identify (i) and (ii), in other words that the church as institutional DPP-relationship is nothing less than the RCT-relationship of the new humanity in Christ. This identification’s unacceptability is evident from the following:

- (a) It implies irrevocably that the meaning of salvation which holds a radical, central and total directional appeal to all life terrains, is limited to ONE terrain of creation viz. the terrain of the church as institute.²

1. In the testimony of the Reformed Ecumenical Synod about human rights from the year 1983 we read the following correction to dualist world views: “Dualist world-views always misconstrue the biblical idea of antithesis. The antithesis gets defined, not in terms of a spiritual warfare which is being waged in every sector of life, but along structural lines. It places one set of societal structures off against another – for example, church against state, a mission station against a political party. Christians then end up fighting the wrong battles” (RES, 1983:76).
2. The form in which identification comes to the fore is in the critical question WHICH church institute (even within the protestant tradition there are many different denominations) must actually be seen as “the body of Christ”? There can still be hypocrites in the institutional church. Can that also be the case with the body of Christ? Although the reformation rejected the Roman identification of the body of Christ with the (Roman) church as institute, some of this Roman heritage still lives particularly when we think that the body of Christ is only expressed in the church as institute, without the realization of the fact that being a Christian (Christ-reborn humanity) should have expression in every facet of life – obedient to the RCT-requirement of the kingdom: service of love to God and neighbour with the WHOLE heart in all its expressions of life.

- (b) From this it is obvious that our thoughts are in the grip of an unbiblical dualism, because then salvation is identified with a particular terrain of creation, namely the terrain of the church and religion.
- (c) The opposite of this implication only underlines the unbiblical dualistic effect of this identification of the direction delimitation with the structural delimitation, because then it follows without saying that the “terrain of sin” stands opposed to the “terrain of salvation” – our being saved from the one to the other.
- (d) Once at this point, there are a number of options:
 - a total dualism can be preached – then we meet ascetism and a monastic mentality, an exclusion in the kingdom of the supposedly exclusively redeemed terrain of creation with disgust and avoidance of everything that opposes it as “the sinful world”;
 - or we meet a milder attitude where the “church” is not considered so estranged from the world but has the calling to act as example of reconciliation (the “area” of God’s concern with creation) to shine its light over the different terrains of the “sinful world” sometimes supported by Kuyper’s view of the church as “organism”);
 - finally, this (quasi-platonic “example” idea) can be taken up so seriously that we are considered called to expressing this “unity” in the church visibly – also in every sector of society.

To summarize: Whoever starts with the acceptance that there is no one terrain of creation which is sinful as such, has taken leave of the view that sin and salvation are “terrains” of creation. It involves nothing but the recognition of the distinction of structure and direction as we have shown earlier. Precisely this basis makes it impossible to reconcile the church as life form (institute)¹ with the central directional division which exists between the elect race of God and apostate humanity.

Whoever delimits the church in a central sense by means of a structural limit only identifies a particular terrain of creation which does not as such exhaust the meaning of salvation (except if we run into a false nature-grace dualism).

3.5 Identity and Ideology

From the previous explanation, it is not difficult to give a brief indication of the question of identity and the nature of an ideology.

In South Africa, we are often confronted with the question: am I first an Afrikaner or a South African? What finally determines my identity, my eth-

1. That is, as Christian faith consociation distinct from the state as legal consociation, business as economic consociation, the university as academic consociation, etc.

nicity or my state citizenship? Most Afrikaners tend to say that they are first Afrikaners and then South Africans whereas English speaking South Africans tend to say that they are first South Africans. In reality, these people possess, simultaneously, differentiated variety (DPP) relationships – without any of these branches being elevated to the primary relationship of being human. I have, for example, simultaneously a (DPP) identity as Afrikaner (i.e. an Afrikaner identity), a South African identity, a religious identity (eg. a Dutch Reformed member), a marriage identity, an academic identity (eg. a Kowsie), etc.

When we fall prey to identifying the central religious dimension with any of its branches – we are in the grasp of an unbiblical ideology. That is why any attempt to identify any differentiated (DPP) relationship with our (RCT) relationship in Christ is ideologically idolatrous. An ideology desires to seduce man into finding his last life anchor in some or other life relationship, i.e. to find a temporary haven (“pastoral home”) for the restless heart of man. When the Afrikaner nation is seen as the true Israel, as the nation of God, we meet an ethnic ideology which exchanges root and branch. Whoever is encompassed in Christ, shares in an RCT-relation which transcends ethnic differences – in Christ we are no longer Jew and Greek (cf. Gal.3:28).

The ideology of Fascism puts the state as life form central, while Rome is guilty of a church ideology because it puts the church as institute equal to the body of Christ in the sense of being central.¹ The tragic irony is that this Roman view still lives, although modified, in our reformatinal tradition, (as we have seen above in connection with the theological discussion about church and society), tempered – although not principally overcome – by the differentiation between church as institute and church as organism.

By way of illustration, we observe the double ideologically-loaded content that the principle name Christian-national receives:

The symbol of the cross often serves to explain the differentiation between “vertical” and “horizontal” – “vertical” refers to the relation to God (Christian) and “horizontal” the relation to fellow-Afrikaners (national).

A well-known (and currently still active) cultural leader, prof. Tjaart van der Walt, once explained the issue as follows:

Both the root of the Christian's existence, as well as each branch of his life, simultaneously serve as crux of three relations in which he stands: The three “co-ordinates” of the root and each branch of his existence indicate the simultaneous involvement in the relation to God, to his fellow-man and to the whole creation. Therefore man's central relation to God is not only vertical,

1. Cf. the Roman *Corpus Christianum* idea which comes down practically to the attempt to “churchify” the whole of life instead of “christianize” it. In the year 1302, Pope Bonifacius VII formulated his famous bull, the conclusion of which states typically in terms of the church ideology: outside the Roman church there is no salvation.

because the Bible stresses that the body of Christ is important, the new nation of God, those who were elect in Christ together (in other words, the Bible stresses our collective nature of our RCT-relationship in Christ). As a result of the Roman heritage, we tend sometimes to tear apart this mutual involvement of fellow believers who are called together with us – then the relation to God as so-called “vertical” relation refers to the branch of the church as institute, while the “horizontal” co-ordinate of the central religious dimension refers to the sphere of another DPP-relationship -(Afrikaner) ethnicity- with subsequent double ideological expression where Christian-national means that I belong to the church as institute and to the Afrikaner nation.¹

This content is doubly ideological because that which is centrally horizontal refers to the nation, and that which is centrally vertical refers to the church institute – both merely branches of our life, which furthermore as branches still have a share in both the “vertical” and “horizontal co-ordinate”.

At the end of this first Chapter, it is good to pause for a moment to see what our methodology has been thus far, and what it will be in the following Chapters. Because philosophical distinction is not strange to everyday life experience, it makes it easier to use examples and problems which appeal to daily life. It is equally useful in certain explanations to make use of philosophical insights and distinctions implicitly without explaining them. Later on, when these implicit explanations are used, one can draw from a particular pre-knowledge. This methodology will also be used in the Chapters which follow.

1. In other words, the nation receives the central-horizontal co-ordinate and the church institute the central-vertical co-ordinate.

Chapter 2

The mystery of human existence

4. Man: Fascinating and Unique

Amidst the expanding contemplation of the universe the central question of the unique nature of humanity returns ever unanswered. This fundamental puzzle exerts such an urgent appeal on scientific reflection that early Greek thinkers already held the opinion that there is no meaning to the attainment of knowledge about all else if man does not know himself. As Heraclitus declares: "I investigate myself" (Diels-Krantz, B. Fragment 101).¹ His reflection is situated within the context of an aspiration to discover a cosmic order which is valid for everything (cf. B Fr. 30). His selection on the nature of man is furthermore formulated with the relation between God and man taken into account – with as negative limit the relation between man and beast. Note his simile: "The most beautiful ape is despicable in comparison to the human race. The most wise man, however, stands to God as an ape ..." (B Fr. 82, 83). Man, for Heraclitus, is situated between beast and God – a problem echoing even into our century in the title of a book by an eminent zoologist: Homo Sapiens, From animal to demigod.

Socrates deepens and internalizes the Greek question of the nature of man. He wants to know who he is himself: is he related to the many-headed animal TIPON (the mythological symbol of the flowing stream of life without any set limit or form), or does he share in the more measured, simple divine nature (the prominence of the motive of form in Greek thought). The term **know** gains a new significance: it no longer refers to the acceptance of a pre-existent truth, but to *investigation, searching* (cf. Landmann, 1962: 67).

In search of the uniqueness of man, Plato realized that distinctive characteristics would have to be taken into account. To distinguish always implies the identification of differences between two compared entities – requiring some or other basis for comparison. In one of his later periods Plato is of the opinion that man might be described as a "bipedal living being without

1. The Nobel prize winner, Walter Gilbert (lecturer in biochemistry at Harvard University), claims that the instruction "know thyself" actually refers to (biological) knowledge of the human "genome"! Cf. Elseviers Weekblad, 5 September 1987: 87ff.

feathers". In terms of this basis of comparison little room is left, however, for the distinctive nature of man. According to an anecdote mentioned by M. Landmann Diogenes plucked a cock as an example of Plato's man, upon which Plato added to his definition: "with flat toenails".

In the **Phaedo** – the first dialogue in which Plato's famed theory of ideas comes to fruition – one finds an approach constitutive of the traditional Western dualistic view of man. In this view man is seen as the union of two entities: a rational soul and a material body. Plato introduced the existence of ideas¹ in an effort to make sense of the possibility to know things. He had learned from Heraclitus that all sensorially perceptible things are in an ever-fluctuating state. It is therefore impossible to know these things. This conclusion rests on the presupposition that everything – including, for Plato, the essential being (the static **eidōs**) of things – is changeable. This Plato could not accept, since things can be known. He wishes to acknowledge that the so-called essence of things could not also be subject to continuous change (cf. his youth dialogue: Cratylus 439 c- 440 a).

In **Phaedo** Plato explains that that which is invisible (and constant), can only be thought about rationally, while that which is visible (and changeable), can only be observed through the senses. When the soul investigates without the mediation of the body, it is directed at the world of the pure and eternal, immortal and unchanging, constant and equally natured things (79d). The soul exhibits the greatest similarity to the divine, immortal, conceivable, simple indissoluble, constant and 'self-identical', while the body bears the greatest similarity to the human, mortal, multivarious, non-conceivable, dissoluble and never-constant (80b: 1-6).

In Plato's greatest dialogue, **Politeia** (The Republic) – representing the culmination of the first phase of his theory of ideas – he defends (in preparation of his ideal state with its three classes) a tripartite understanding of the soul (cf. 436 ff.). These three parts of the soul² continued via the Middle Ages to exert an influence on the traditional understanding of the "abilities" of the soul (even in 20th century Reformed theology): *thought, will* and *feeling* – compare also Hitler's estates in Nazi Germany and the *id, ego* and *superego* in the depth psychology of Sigmund Freud.

On the other hand it also continued to exert an influence on the classifications of biological systematics. It has been assumed as of old that man has something which is missing in animals: rational insight (wisdom/sapiens) – thence the typification **Homo sapiens**. Since Darwin, admittedly, this biological classification has been placed within a climate of thought which links man in a continuous line of descent to his supposedly animal forebears – a line which has to extend back (via lower animals, plants, pre-organic sys-

1. According to him these ideas are foundational to the transient sensorily perceptible things as invisible, unchanging essential forms.
2. Namely the *logistikōn, thumoeides* and *epithumētikon*, i.e. thought, fervour and desire.

tems, macro-molecules, atoms and elementary particles) to some supposed primal configuration – at which point an end must be called so as to prevent the continuation of the material-physical “origin” into nothingness. (Such a continuation would exert an influence towards the idea of some sort of creation.)

A remarkable recent phenomenon is that a number of prominent biologists, apparently trying to shape a coherent supposedly continuous line of descent, are recognising increasingly the qualitative differences which characterize the unique nature of man. An illustration is the following statement by Simpson (1971: 270):

Man has certain basic diagnostic features which set him off most sharply from any other animal and which have involved other developments not only increasing this sharp distinction but also making it an absolute difference in kind and not only a relative difference of degree.

Despite this growing sensitivity for the unique nature of man, hardly any scientific discipline today manages to escape the claims of the variants of evolutionism. The obvious shortcoming in this claim is the pretence that the origin of man is a matter purely of biological theory.¹ In reality it is fairly obvious that every biological theory is subject to particular philosophical preconceptions. In reflecting for a moment whether man really descends from animal forebears we can also set the practice of philosophy in motion by laying some foundation stones for the development of a philosophical view of man which recognizes the unique nature of man.

5. Does man really descend from animal ancestors?

There is sense in distinguishing between “evolution” (gradual development) and “evolutionism” (gradual development across all barriers – from lifeless material things like atoms and molecules, to plants, animals and eventually man, the supposed culmination of the evolutionary process). Evolution as gradual, continuous development is by no means a new concept. The Greek philosopher Anaximander already claimed six centuries before Christ that living creatures came into existence in a rising line after one another. This theory was however only elaborated in a modern biological-scientific manner in the previous century by Jean Lamarck (1744-1829). It was as a reaction to Lamarck’s work that the famous Charles Darwin published his “The Origin of Species” in 1859.

Diametrically opposed points of view emerged in biology since the end of the previous century. The still prominent mechanistic approach presumes that all living entities can be completely understood in terms of physical, non-living material particles – particularly the interactions of atoms, molecules and macromolecules out of which they consist. Alternatively vitalism (“vita”

1. Biology is the science which studies living things from the perspective of the biotic aspect of reality

means life) teaches that all living things exist by virtue of the presence of some or other immaterial “life force”. The mechanistic approach exalts the physical aspect of created reality as the explanatory principle of origin – and sees everything as transformations of material particles which continuously and completely by chance cause all forms of life, while (neo-)vitalism starts with the biotical (life) aspect of reality.¹ Since living things exhibit a remarkable purposiveness and plannedness, neo-vitalism emphasizes this teleological purposiveness, consequently rejecting the blind faith in fate of neo-Darwinism.²

The multiplicity of opinions in modern biology makes it nonsense to speak of evolutionary theory as if it is a single, uniform body of opinion. Without denial a number of different evolutionary theories exist, while even non-evolutionary opinions are quite common in contemporary biology.

Let us examine some of the pitfalls and problem areas in the conceptual world of the most well-known evolutionary theory – physicalist (mechanistic) neo-Darwinism.

5.1 Cornerstones of neo-Darwinism

“Mutation” is the conceptual term for the supposed phenomenon of sudden drastic, and subsequently inheritable, changes in the biotic structure of living things.³ It has to serve as explanation for the origin of more developed types. Unfortunately, all known mutations are detrimental. Neo-Darwinists are forced by their position to see these disadvantaged mutants (i.e. the transformed individuals) as the advantaged organisms with a better chance to survive. In order to temper this far-fetchedness, the aid of natural selection, or accidental purposiveness, is called in. This caused the eminent geneticist Dobzhansky to remark, “Mutation alone, uncontrolled by natural selection, could only result in degeneration, decay and extinction” (1964: 41).

1. Another well-known vitalist thinker is Albert Schweitzer.
2. Other biological points of view, such as organismic biology, emergence evolutionism, panpsychism and holism are not discussed here.
3. The two strings of the nucleonic acid are ordered in a double spiral structure and can double themselves. Every nucleotide (nucleotides are present in the nucleonic acid–DNA: Desoxirhibonuclein acid – and are formed of the link between a sugar with a nitrogen-inclusive base on the one side and a phosphoric acid complement on the other side) attracts its complement out of the nucleotides freely present in the environment, leading to the formation of two new DNA-spirals which are faultless copies of the original. It could happen, as a result of chemical influences, cosmic or Röntgen radiation, that one or more of the nucleotides fall away or are added, changing the genetic information of the DNA-molecule. This “fault” can then again be faultlessly copied. Mutations can bring about changes in individual genes, chromosomes, or even a number of chromosomes (e.g. in the case of polyploide).

With "natural selection" Darwin had in mind the continual struggle for survival in which only the fittest survive. As a result, mainstream Darwinist evolutionary theory holds that these two phenomena, mutation and natural selection, always act in coherence. This makes it possible for the disadvantaged organism to emerge as the advantaged. In this manner all transformations and links between different living things can be explained: from the lowest form of plant and animal life¹ to man.

It is scientifically clear, however, that no single molecule, however complex its structure, could be alive. The term "molecular biology" is actually an internal contradiction. In his later development even the well-known neo-Darwinist, G.G. Simpson, had to admit, "Since biology is the study of life [maybe rather "living things"] and molecules, as such, are not alive, the term 'molecular biology' is selfcontradictory" (1969: 6).

5.2. Mutation extended across all borders

Despite the limitations in Darwinistic evolutionary theory, neo-Darwinists blithely extend the working of mutations across all barriers. In this manner they attempt to gain scientific status for a theory founded on speculation and which cannot be controlled scientifically.

Extensive and widely-known studies of the fruit fly² have contributed considerably to our knowledge of micro-evolution.³ Practically, this has brought about the current situation in which the breeding (artificial selection) of plants and improved animal breeds has become an everyday occurrence. The previously-mentioned geneticist, T. Dobzhansky, nonetheless observes that all the mutations of the fruit fly still belong to the species *Drosophila* – the same as that to which their ancestors belonged.

The eminent Swiss biologist, Adolf Portmann, questions with reason the neo-Darwinist attempt to take the long and uncontrollable step from micro-evolution to macro-evolution.⁴ He claims that the knowledge we currently possess, based on experiments, is far too little to explain such awesome phenomena as fossils (studied in paleontology). In consequence he finds it unjustified to derive the larger animals from simpler earlier forms (1969: 30).

1. Grouped together as the protista – a number of living things which are grouped apart as a result of their simple structure (biotic organization) – such as algae, bacteria, fungi, slime, and protozoa.
2. Known as *Drosophila melanogaster* it has a life cycle of ten days, which means that great quantities can be bred with great success.
3. Micro-evolution is development within the nature of a single species – "small scale evolution" – in distinction from macro-evolution which poses development across all typical barriers, and across the barriers of more common systematic units, such as genuses, families, orders, classes and phylums.
4. Cf. his discussion of the matter in his work on the problems of life (1967: 113-121).

5.3. Adaption and biochemical "hope"?

Explanations of evolution by means of adaption commonly refers to true and controllable instances of adaption. Much is made of the white moth in England which became black in very polluted areas during the industrial revolution, since birds could catch the white moths more easily against the dark background, thereby increasing the chances of survival of the black moths. This does not, however, provide any proof of macro-evolution. After all, the black moths still belong to the same species as the white moths.

New directions in biochemistry have begun to investigate the dimension of possible relationships, with particular attention to the molecular building blocks of organisms.

This investigation concerns the nature of proteins – including haemoglobin, albumin, etc. It also concerns the nature of enzymes which, built up out of 20 different amino acids, performs a catalytic function in metabolic processes (building up and taking apart processes) of cells (sometimes as many as 100 000 are found in a single cell). Finally, this new direction in biochemistry investigates blood group antigens (which cause the formation of antibodies) etc.

To arrive at intricate "family trees" on the basis of this information is impossible, since this sort of analysis does not provide information on the time factor – essential for any theory of descent.

W. Henke and H. Rothe mention additionally that all efforts until now to draw "family trees" on the basis of biochemical research, have been unsatisfactory, due to the numerous unproven presuppositions regarding evolutionary tempo on a molecular level (1980: 17). They also make this remarkable statement: "It (the drawing up of family trees on the basis of biochemical information – D.S.) indicates furthermore quite prominent deviations from those 'family trees' constructed in terms of morphological measures".

5.4. What do the fossils say?

The responsibility for fostering the credibility of the neo-Darwinist evolutionary hypothesis rests largely on paleontology (the study of unearthed fossils).

At its deepest, evolutionary theory attempts to answer the question of the origin of living organisms during a virtually inconceivable past. Its pretence is to satisfactorily explain events in the process of biotic development over a period of some three billion years (three thousand million years). It is obvious that such a pretence cannot be bolstered by means of direct "verification", observation or experimentation. The acceptability of the "family trees" sketched by paleontologists is additionally dependent on such fossils as are found. Already since the publication of Darwin's controversial writings much evolutionistic hope has been placed on the conclusiveness of such finds.

Much trusting expectation was spent on the discovery of "missing links". The hope was cherished that paleontology would clear up the mystery of the major moments in the historical descent of plants, animals and man.¹

Into the 1960's most evolutionists still believed that modern man descended from the southern apes, with Java- and Peking-man as links. The latter had been dated back some 500 000 years. This is now dated back to 1 million years. Subsequent discoveries, however, upset these hypotheses.

Since the beginning of the 1960's, L.S.B. Leakey has made known several fossil finds which belong, according to standard classification, to a separate species within the genus Homo – Homo habilis. This form, however, was supposed to be two million years old, while being contemporary with man's supposed ancestors, the southern apes. In 1972 Richard Leakey found skull fragments (given the registration number 1470) which, though almost three times older than the Peking and Java forms (currently grouped together by Leakey as the Homo erectus), still has a brain volume almost as large, and without the prominent brow of the erectus-forms.² Skull 1470 is also currently considered as a Homo habilis type (cf. Henke and Rothe, 1980:95).

In the last couple of years the history of the emergence of the homonids (man-like) experienced so many alterations as a consequence of new discoveries that it can be assumed that this situation will only become more complex. L.S.B. Leakey (with Napier and Tobias) abandoned e.g. brain volume as a characteristic of the genus Homo. It has become increasingly clear that the features regarding the human build and form (i.e. anatomical and morphological measures) are inadequate to define man.

It is interesting to note that the following was written in one of the world's most authoritative pro-evolutionist journals, "Evolution", in 1974. The paleontologist D.B. Kitts wrote that the spatial distribution and succession in time of organisms with which paleontologists work, are founded in the ordering prin-

1. The following gives a summary history of the emergence of a few relevant plants, animals, and man: unicellular algae are the most ancient (3100 million years: *Archaeosphaeroides babartonsensis*). A few invertebrate animal phylums are known from the pre-Cambrium (such as *Trilobita*, *Porifera*, and *Coelenterata*). In the *Paleosoicum* different kinds of fish: *Agnatha* (jawless fish), *Placodermi* *Chondrichthyes*, *Actinopterygii*, *Crossopterygii*, as well as Amphibians and Reptiles; in the *Mesozoicum* Mammals as well as the first primeval bird *Archaeopteryx* (discovered in 1861). Supposed ancestors of man are: the Southern apes (*Australopithecines* 5-1 million years), *Homo habilis* (3-2 million years), Java- and Peking-apeman (currently *Homo erectus* – 1 million years), Neanderthal man (about 100000 years) and *Homo sapiens recens* (40000 years).

2. Leakey, R.E.: *Skull 1470, Discovery in Kenya of the earliest suggestion of the genus Homo – nearly three million years old*, National Geographic, Vol.143, no.6, June 1973, p.820. Cf. also pp.822,823,828. Later Kamoya Kimieu, a colleague of Richard Leakey, discovered a well-preserved *Homo erectus* skeleton on the west side of Lake Turkana in Kenya – it is about 1,6 million years old and is probably that of a young boy of about 12 years old (f. *Newsweek*, 29 October, 1984, p.39).

cles of geology, and not in any biological theory. Paleontology therefore provides information inaccessible by means of biological principles alone. For this reason paleontologists cannot substantiate evolution; "We can leave the fossil record free of a theory of evolution. An evolutionist, however, cannot leave the fossil record free of the evolutionary hypothesis" (1974: 466). This is a leading paleontologist saying explicitly that evolution is a provisional (theoretical-hypothetical) presupposition. Kitts also remarks that many biological thinkers become convinced evolutionists on the grounds of a theory already inherently evolutionistic. This is yet another instance of people believing what they want to believe.

With regard to the "missing links", Kitts says: "Evolution requires intermediate forms between species and paleontology does not provide them" (1974: 467). With regard to Darwin's hope of a continuous line of descent without gaps, he declares: "Most of the gaps were still there a century later and some paleontologists were no longer willing to explain them away geologically."¹

On the basis of phenomena and characteristics to which we have direct access we can ask the question of man's unique nature. Against the background of these preceding considerations, which emphasize the important problem points in the supposed descent of man from non-human ancestors, we briefly pay attention to this question.

5.5 Is man really unique?

As of young, children learn that people and animals differ. An animal is an animal and a human is a human. This knowledge, which the child can check with his senses, is challenged for the first time in about standard two when the child is first taught that people are actually mammals. Consequently, conflict and doubt grows in the mind of the child. On the one side is the growing child's reality-conforming experience of life, on the other side the scientific knowledge with which they come into contact.

There are of course many similarities between human and animal, particularly between humans and mammals, the latter being a class of vertebrates, which is a subphylum of the Chordata. Whenever similarities are indicated, however, it also implies differences. It would, after all, be impossible to notice similarities without differences – things would simply be identical. And where differences exist, we are not dealing with exactly the same thing. To emphasize similarities exclusively and subsequently conclude identity, is scientifically indefensible.

As of old it has been accepted that man possesses something lacking in animals: rational insight or wisdom. Thence the name ascribed to man in

1. The so-called 'punctuated equilibria' introduced by S. Gould is nothing but an attempt to come to grips with the overall image of discontinuity presented by the paleontological record.

biological classification: Homo (the genus) sapiens (the species name, which means "wisdom"). Darwinism, however, has link this wise man with animal ancestors, and prior to them with the lower animals, sub-organic systems (such as viruses), macro-molecules, atoms, and elementary particles all the way back to the supposed primal mass. By choice this was the end of the process, since an extension of the process through the material into nothingness would come to close to the Biblical idea of creation.

What, however, is meant by the unique nature of man?

5.6 Some remarkable characteristics of the human being

Some thinkers are of the opinion that language is the particular characteristic which distinguishes man from animals. By means of language humanity owns and utilizes a consciousness of the past and the future, a consciousness including the knowledge of the individual person's limited lifespan. It is interesting, understandable and noteworthy that the evolutionist Dobzhansky considers the awareness of death man's typifying characteristic. Some thinkers are even of the opinion that the ability to commit suicide typifies the unique nature of man.

Animal communication does not refer to the past or the future. It refers to the vital here and now. For this reason animal signs have strictly one content for every one sign.

All human utterances can signify a number of things, depending on the context, intention, or even, in the case of written language, the punctuation. Compare this with the famous dance of the bees which always indicates by means of the (i) tempo, (ii) direction and (iii) angle of the figure eight executed, the (i) distance, (ii) location, and (iii) direction of the found source. Human language, on the other hand, presupposes a freedom of choice and the concomitant multiplicity of meaning, requiring interpretation, which requires interpretation from the addressee. It presupposes the responsible free activity of the human being, which requires responsible choices.¹

5.7 Why animals cannot speak

The order of primates, under which man is classified evolutionistically, is noticeably poor in nuanced sounds – with the obvious exception of man. The sounds of mammals simply do not compare with, for example, birdsong.

The man-apes (anthropoids, i.e. the orangutan, gorilla, chimpanzee, and longarm ape), are as a result of anatomical shortcomings, born incapable of speech. It is interesting to note that the human larynx is positioned in exactly the same way as that of all other mammals at birth. One reason for this is that the human infant needs a way for milk to flow which is separate from the

1. This is why there is a principal difference between the learning of certain signs by chimpanzees and gorillas and all human language usage – these animals are simply not free to respond **responsibly** to norms.

windpipe. The baby can breath calmly while drinking. Exactly because of this the human infant is incapable of speech, like all mammals. Only by means of the gradual removal of this division, caused by the downward movement of larynx – freeing the larger pharynx cavity – is the human person enabled to speak. Only man possesses an intermediate area in between the nasal cavity and the larynx where air and food channels freely cross.¹ As Laitman observes:

"This high position permits the epiglottis to pass up behind the soft palate to lock the larynx into the nasopharynx, providing a direct air channel from the nose through the nasopharynx, larynx and trachea to the lungs. ... In essence, two separate pathways are created: a respiratory tract from the nose to the lungs, and a digestive tract from the oral cavity to the esophagus. While this basic mammalian pattern – found with variations from dolphins to apes – enables an individual to breathe and swallow simultaneously, it severely limits the array of sounds an animal can produce. ... While some animals can approximate some human speech sounds, they are anatomically incapable of producing the range of sounds necessary for complete, articulate speech" (1985: 282).

Strictly speaking man does not possess any speech organs. No one single human organ is responsible for the production of language sounds on its own. Furthermore, every organ involved in the process of speech, possesses a primary function which would continue undisturbed even if people never spoke. When people talk they take these organs in service, namely the brain, lungs, larynx, palate, teeth, lips, and nasal cavity.

The highly developed and delicate interaction among these anatomically diverse organs in the process of talking and singing, is so amazing that the attempt to explain it evolutionistically must be doomed to everlasting failure.²

5.8 Can animals think and form concepts?

The German zoologist, Bernard Rensch, who believes that animals can form a verbal concepts (concepts without words), admits that only man can form a concept of causal relationships. Only man can make deductions, accompanied by parts of speech such as "in consequence of", "because", "in case", etc. The human equipment to come to logical conclusions is lacking in animals.

The capacity of anthropoids to distinguish between sensorially perceivable objects, and even to associate these with one another (compare the sort of signs taught to gorillas in recent years), still does not provide conclusive

1. When the mobile epiglottis does not handle the "traffic" effectively, we suffocate. Cf. Goertler, 1972: 249 and Portmann, 1973: 397-424.
2. Cf. the similar comments by P. Overhage in his work of 1972: 250, as well as his work of 1977: 109-112.

evidence that these animals can function actively – reason logically – in the logical aspect of reality.¹

This truth can be tested simply by asking whether animals can distinguish between logical and illogical concepts. Use for example the concept of a "square circle".² An attempt at Münster to get chimpanzees to copy drawings of squares and triangles lasted six months, and met with no success. How then could a chimpanzee be brought to form the concept of a "square circle", or even to realize that it is illogical?

Portmann typifies the peculiar human freedom of choice as follows: "The narrow limitations of animal interests is opposed to our freedom of choice and direction. Animals can escape the bonds of their urges only to a limited extent, while I myself can, in every moment, in accordance with my entire observance, turn my entire inwardly participative dedication to some or other matter, however insignificant it may appear" (1974: 102). The truly human is apparent in man's erect stature, free hand, opposing thumb, and spiritually-characterized facial expression. K. Lorenz says that man is a specialist in non-specialization.

Gehlen is inclined to see the typically human functions as compensation for man's lack of instinctive certainty and environmental fixation.³ The opposite is however the case. The physical, biotic and sensitive-psychic dimensions of human existence stands in service of and is directed towards man's normative character. Man can think logically, speak, interact socially, and form culture. Man's freedom of decision and need to reflect rationally (expressed in the great variety evident in the formation of culture) characteristic of human existence, requires a non-specialized and relatively instinct-poor foundation. Portmann speaks in this regard of man's "second nature", the transformed formation of a world of culture. From the perspective of the normative-cultural character of man's activities, we should perhaps rather speak of man's "first nature".

5.9 Tools and the unique nature of man

Man's use of tools was originally seen as a distinction from animals. Since it has been shown that animals do use tools, this criterion has been changed. With reference to Oakley's definition of man, Overhage emphasizes man's distinguishing ability to make, rather than merely use, tools (1974: 359). Despite the continuing placement of man in the animal kingdom, Simpson defines man summarily as "the only living animal that uses tools to make tools" (1969: 91).

1. Cf. e.g. the arguments of R.E. Leakey and R. Lewin, 1978:202ff.
2. Don't think of a boxing ring in this regard – it demonstrates the freedom of metaphoric language!
3. This typification derives, as we shall see below, from the thought of the Swiss biologist, Adolf Portmann.

This description, however, typifies the nature of technique, since, differently from other widely divergent cultural products such as money, cars and test tubes (respectively economically, socially and academically qualified), tools are the only man-made cultural products (their technical formative foundation) made to make something else with (their technical formative qualification).

The importance of technical cultural products (tools) as a distinctive criterion has increased as it became clear that anatomical and morphological criteria come far too short in the evaluation of fossils. There is an increasing dependence on evidence of typically human cultural activity, which has increasingly brought archaeology into the picture. The archaeologist K.J. Narr indicated already in 1959 that "largely descent researchers with a natural scientific bent have sought anew the border between man and animal where man's particular spirituality appears in singular indications of cultural activity" (1959: 393).

The obvious and distinctive human cultural activities are particularly closely bound to man's free formative fantasy which is the foundation of all technical inventions. As Von Königsberg states with reason, man is a cultural being, "without culture no *Dasein* (concrete existence – D.S.) worthy of man can be contemplated" (Von Königswald, 1968: 150). Mentioning the fact that human tools are conceptualized particularly with a view to future use, he states explicitly that true invention took place already in the earliest phase of the *paleolithicum* (the earlier stone age) (1968: 167). The presence of man's inventive formative fantasy provides the foundation for practically useful archaeological criteria in terms of which typically human tools can be distinguished:

- (a) The form of the produced tool may not be suggested or determined by the original raw material (e.g. in distinction from a stick from which irritating leaves and twigs need merely be removed);
- (b) the function of the tools may not be suggested (a rock in its natural shape is a strengthening of the fist; a stick an elongation of the arm or fingers), that is, tools may not be merely extended physical organs;
- (c) the manner of production may not be suggested, with appeal to the technical moment which implies that tools must be formed by means of (formed or unformed) tools (cf. Narr, 1974: 105 and Narr, 1976: 99-101).

The fact that the earliest human tools had multiple purposes and only gained a relative task-specific speciality in due course, indicates that the means-end-relation is inherent to all tools. The typically human use of tools presupposes man's analytical ability which enables him to distinguish means and ends.

A philosophical analysis of the unique nature of man must advance to the question of the particular manner in which man experiences reality.

5.10 Human and animal experience of reality

Portmann considers the animal nature to be instinctively assured and environmentally bound (1969: 86). Animals experience reality exclusively out of their natural inclination, directed at that which is physically, biotically and psychic-sensitively important to them. Animals experience reality in terms of that which is negotiable and not negotiable, edible and inedible, in terms of same sex and opposite sex, comforting and alarming. J. von Uexküll illustrated the environmental (Umwelt-) restriction of the animal by means of his oak tree example: "Each Umwelt isolates out of the oak tree a particular part ... In all the various Umwelten of his various inhabitants the same oak plays a widely divergent role, sometimes with particular and then again with none of his parts. The same part can be large or small, the same wood hard and soft, it can serve as a means of shelter or attack" (Von Uexküll, 1970: 89, 100). Human experience of the oak tree transcends these natural aspects of reality to which animal experience is restricted. The natural scientist sees the tree as an object of analytical study, the hiker as something with a particular aesthetic attraction, the criminal as a hiding place from the law, the woodworker as material from which to make furniture, and so forth. This human experiential perspective with its rich variety is linked to man's cultural calling which enables him to be variably settled in any environment by means of cultural formation.

Since those facets of reality in which man functions in a typically human way are not instinctively assured or bound, but are directed at man's normatively qualified, responsible freedom of choice¹ man has a flexibility which makes incredible specialization possible in differentiated civilizations. Even Simpson emphasizes this: "Such specialization, which is non-genetic, requires individual flexibility and could not occur in a mainly instinctive animal" (1969: 90).²

Such normative specialization, however, requires and presupposes an unspecialized bio-psychic foundation – a further characteristic unique to man.

5.11 The lack of specialization in man's physical equipment

In contrast with the instinctively assured and environmentally bound specialized way in which animals are adapted to their natural environment, man enters this world with unspecialized physical equipment: he possesses no natural adaption to a particular environment, and is distinctively unspecialized, physically and bio-psychically, in comparison to animals. Human teeth

1. We have already referred to this in the brief discussion on opposites such as logical-illogical, historical-unhistorical, social-unsocial, and so forth – opposites which all presuppose universal measures, "ought" demands, and principles.
2. Contrast this with the closed nature of animal existence. As Hart comments, "A worker ant is just that – and all its functions are geared to being a worker ant. A human being, on the other hand, has multiple roles to play and is not exhausted in any of them" (1984:146).

are not adapted to either eating plants or animals. The lack of gaps between the eye teeth and premolars (which is specialized into e.g. fangs in anthropoids) is also an archaic (primitive, in the sense of unspecialized) characteristic of human teeth in comparison with animal teeth. The human hand and foot is equally archaic in comparison with those of the anthropoids (cf. Gehlen, 1971: 86 ff.) G. Altner notes that even anthropoid teeth are relatively unspecialized, but cannot deny the general trend of the mentioned data (as emphasized by e.g. Gehlen) (1972:199-202).

Comment: Since Dollo formulated the law of irreversible specialization, existing anthropoids lost their claim to ancestry of humanity, since it is impossible to deduce the unspecialized characteristics from the progressively specialized nature of the anthropoids. This leaves two equally limited possibilities:

- (i) construct a hypothetical primal form which could serve as basis and point of departure for the specialization of the anthropoids (but then these would be descended from man), or
- (ii) negate the law of Dollo with reference to e.g. neoteny (rejuvenation phenomena among animals, L. Bolk) and the theory of self-domestication (K. Lorenz).

Gehlen typifies man – in comparison to the natural inclination of animals – as a defective creature (1971: 20, 30, 83, 354). He neatly turns around the position that animals have no mind: man lacks something, since he is so unspecialized! Gehlen returns to the position of J.G. Herder who said in 1770 (the *Ursprung der Sprache*) the following regarding man: "This instinctless, miserable creature, emerging so lonely from the hands of nature, was from the very first moment a free-acting, inventive creature who had to help himself and could not but do so" (quoted by Altner, 1972: 157).

Even though man is not entirely without instinct, his natural inclinations do come considerably short in comparison with the abilities of animals. Man is earthbound, unable to soar through the air like a bird. Man is much slower than many wild animals and lacks a naturally protective hairy hide. Human senses are considerable limited in comparison with the acuity of animal senses. He possesses no naturally dangerous weapons, especially in comparison with the muscular strength, claws or jaws of carnivores. There are animals which can register supersonic waves, see ultraviolet rays as light, fish which can sense electrical fields and birds which use the magnetic poles of the earth as navigating devices – all senses lacking in man.²

Man only appears an unspecialized and defective creature when the natural inclinations of animals are used as the single basis of comparison. As Hans Freyer objects: Man is first fictitiously portrayed as an animal, after which it appears that as an animal, he is highly incomplete and even impossible!

1. Cf. resp. Bolk, 1926 en Lorenz, 1973, as well as my more extensive treatment in 1988.
2. Portmann discusses this in one of his works: *Der Mensch ein Mängelwesen?* in Portmann, 1970: 200ff.

What sort of picture do we get when we look at man and animal in terms of common factors – as revealed in the biotic functioning of both?

5.12 The unique biotic developmental character of man

The pioneering work of Portmann on this terrain has not only indicated that man cannot be pigeonholed in either of the two developmental types which he identified in the animal kingdom¹ but that in comparison with the typical animal growth rhythms – which is gradual and continuous – the human growth rhythm has two phases of acceleration.

In comparison with the Nestflüchter man is born a year too early. Portmann calls this the “social uterus period” which enables the newborn human to gain by means of cultural contact and transference that which the animal instinctively has at birth (1969: cf. Chapters II, III, V, and VI). During his first year of life the human baby develops at double the rate of the anthropoids, after which a slowing down in growth tempo takes place until the ninth year. After this period of childhood there is another period of rapid growth culminating in the fifteenth year (during which puberty stage sexual maturity is reached) – after which the process of growth slows down again until maturity is reached at about twenty or twenty-two years.

Similar to this long period of youth (during which he must master and internalize the expansive cultural tradition within which he lives), man also possesses a similarly long period of adulthood within which to transfer this cultural inheritance of generations effectively and educationally. This biotic developmental dynamics shows that each period of development must be seen as completely interwoven with the characteristic human form of life.

6. Provisional overview

Out of the data brought to the fore in the preceding discussion regarding the origin and nature of man it has gradually become clear that what is involved is an encompassing philosophical view of man transcending the limits of any specific discipline. We already mentioned at the beginning that it is impossible to maintain the pretense that what is involved is a mere biological scientific theory. What is involved fundamentally is a philosophical view of reality which continues to reveal a particular underlying life- and worldview and directive foundational motive.

It is consequently not so simple to attempt a reconciliation between the Christian worldview and the idea of unplanned, coincidental evolution across all limits. We are often told that we may as well believe that God merely

1. Namely the *Nesthocker* (nest-huggers) and the *Nestflüchter* (nest-leavers). The latter are animals who have a way of movement, stature and proportions at birth similar to their adult form, with open eyelids and hearing channels and little dependency on the parents. *Nesthocker*, on the other hand, are born in helpless dependence, with closed eyes and ears and dependent on care in a prepared nest.

created by means of evolution. That God created man as the crown of creation is however a central element of our Biblical faith in creation. All of creation is directed at man as the holder of God's cultural mandate on earth – man has a cultural calling and task. This meaningful and orderly universal anthropocentricity is excluded in principle by neo-Darwinism in its combination of mutation and natural selection. In this view the idea of a divine plan of creation makes no sense – least of all that man should be part of this plan. As neo-Darwinism teaches, man is merely the result of a meaningless and completely coincidental material-energetic process which did not foresee his development, as Simpson commented on occasion: “He was not planned”.

The Biblical Christian knows that there is nothing in creation, not even a single facet, in which the human heart can find rest. God alone may receive the honour as the true Creator of all things. He created everything according to its own nature (Genesis 1) with man as the crown of creation (Genesis 1:28), crowning him with glory and honour (Psalm 8: 6). No superficial attempt at reconciliation can bridge the gap between a Biblically founded view of science and the many variations of the evolutionary theory. No Christian can abandon his heart to the deification of the created, and so attempt to serve two lords at once.

7. The recurrent question: who is man?

At this central point we are confronted anew by the question: who and what is man actually? At the beginning of this chapter we referred to the mystery of human existence. The course of our exposition could even have given the impression that science could provide the solution to this riddle. Anyone seriously attempting to ascertain what exactly is known scientifically about man today is soon overwhelmed by the sheer magnitude of this knowledge – so much is known that no single individual could hope to be up to date with it all.

Investigations of the microdimensions of human existence especially has spectacularly moved the scientific horizon in the past three decades. We only need to think back to the early 1950's when biologists and biochemists unveiled the mysteries of the DNA-molecule. More and more becomes known all the time about the complex duplication mechanics in the cell during reproduction. Biological engineering is developing at an astounding rate – so much so that the inhuman possibilities with regard to the future genetic manipulation of humanity are truly disturbing. These developments probably have as their all-encompassing background the rise of depth psychology during the first half of the 20th century – with such great psychologists as Freud, Adler and Jung in the vanguard. Many previously unexplained phenomena were suddenly wrenched into the centre of scientific interest. The astounding world of the sub- or unconscious was placed on the table and it became possible to discuss scientifically what has become virtually general knowledge today – e.g. pathological schizophrenia (the personality problem of Dr. Jekyll and Mr. Hyde).

It has not been only the natural sciences which advanced considerably in recent decades – similar advances have been made in the normative scientific knowledge of man and his potential. Thanks to developments in abstract mathematics during the previous century and at the beginning of this century (such as the famous **Principia Mathematica** of Russell and Whitehead during the years 1910-1913), we are on the one hand for the first time in a position to plumb the depths of logical reasoning – already accessible to Greek thought¹ – in terms of mathematical logic, while on the other hand we have been enabled by means of the micro-electronic developments in our day – developments entirely dependent on insights in the field of mathematical logic – to develop one of man's most astounding tools as yet, the computer. By means of the historical and ethnological sciences man has also gained a considerably enriched perspective on the previously unknown origins of his cultural heritage, while we know more than ever about the striking stylistic figures which distinguishes 20th century man culturally from such truly undifferentiated cultures as still live in bygone historical eras.²

We could continue in this vein to bring examples of the advances of modern science to attention – without coming any closer to the elusive riddle – who and what is man himself.

The influential personalistic philosopher and ethicist, Martin Buber, developed a dualistic view of reality in one of his works which places all emphasis on the personal encounter of man in love. This personal encounter in love is then placed dialectically against all impersonal relations between man and the external world. This work is called "**Ich und Du**" (1923). According to Buber, reality reveals itself to man in two ways, since the "I" stands in two kinds of fundamental relations: the I-Thou relationship and the I-It relationship. For Buber no I-in-itself exists, since the word I always encompasses one of these two relationships. He and She falls within the I-It relationship. The world as man experiences it, with the It, He, and She, even with internal experiences or secrets reserved for the initiated, already consists of Its, objects. Experiences of this world are not reciprocal, and affect only man, who experiences them. Thus, the world-as-experience belongs with the fundamental term I-It. In contrast to this is the fundamental term I-Thou which is the basis for the world-of-relationship which knows no inner barriers since only Its are mutually delimited. The I-Thou relationship exists in the presence of encounter, since only in this relationship does the present reveal itself. The objects of the I-It relationship, however, are experienced in the past. The in-

1. Euclides, the great Greek mathematician, developed an arithmetical proof stating that there are an infinite number of prime numbers. (Prime numbers are all natural numbers which can be divided only by 1 and themselves). In this proof subtle use is made of means of evidence and conclusion which could only be explicitly accounted for by means of mathematical logic in this century. Cf. Gentzen, 1967:14-25).
2. In Africa there are even tribes who haven't yet entered the stone age, still living in cultures with *soft* objects of daily use.

dividual Thou becomes It after the experience of encounter, and the individual It can become Thou by stepping into the experience of encounter.

Love is the distinguishing mark of the personal I-Thou relationship. Buber develops his approach in a world-historical and religious context (he was Jewish). Every great culture draws its spark of life continually out of an original experience of encounter, out of an answer to the Thou. When these renewing relational occasions are lost, a culture stultifies and becomes subject to that fate which rests on every human being in the full weight of a dead world mass. Liberation from this situation, to being children of God, according to Buber, comes only out of new experiences of encounter, a fateful answer of man to his Thou. Only in this way can a culture renew itself. In the dominant idea of fate, which subjects man to social, cultural, psychic, historical and other laws, it is forgotten that no-one can meet fate unless he proceeds from a position of freedom. Notice this internal dialectical tension in Buber's thought: natural law and freedom reciprocally presuppose and threaten each other.

According to Buber, faith in fate surrenders man to the overpowering grip of the It-World, whereas man becomes free in the I-Thou relationship, free also of the grip of a rationally obvious system (Buber's reaction against rationalism)¹ a freedom indicated fundamentally by liberation from faith in unfreedom. The meaning of life is to be found, according to Buber, in the embrace of fate and freedom.

The word love is central in this supposed encounter between person and person. Does it provide insight into the mystery of human existence? Can we truly say that love is the actual core of human existence – or at least that it **should**? Both Classical Greek and Eastern philosophy emphasized the ethical (moral) nature of man – as can be seen in the typification of man as a rational-moral creature. Let us look briefly at the possibility of seeing love as the essence of being human.

We are immediately confronted by two problems: (i) it is very difficult to define love and (ii) love reveals itself in many ways.

About three decades ago the famous Dutch philosopher, Herman Dooyeweerd, gave attention to this problem in a lecture given in America. With reference to attempts to typify man in terms of love he said:

"The personalistic and existential views of man attempted to fictionalize the I-Thou relationship as a relationship of love – an inner encounter of human persons. But in the earthly horizon of time even these relationships of love reveal a variety of meaning and typical character". He continues to bring the various relationships of love within which man stands to attention by means of a series of questions: "Does this refer to the love between marriage partners or that

1. We shall discuss the nature of rationalism and a few other isms in philosophy and the special sciences later.

between parents and children? Or is it the relationship of love between co-religionists in related Reformed churches which we have in mind? Or maybe the relationship of love among compatriots with a common love for the same fatherland? Or maybe we have the general love of a neighbour in the moral relationships of our temporal life in mind?" (1960: 12).

It is clear that Dooyeweerd is paying attention to what we called DPP-relations in Chapter 1. Each of these exemplifies another differentiated human relationship of love – family love, marriage love, patriotism, and so forth. None of these DPP-relations, however, can be reconciled with the central, radical and total bond of humanity – the RCT-dimension of our existence.¹

To further complicate matters we use the same word for the RCT-dimension of creation as we do for one of the multitude of DDP-relations in which people engage. The Bible regularly uses the word **love** for a differentiated given which refers to a particular facet, among others, of human existence. As often, the Bible uses **love** in an RCT-sense.

When love is used in a differentiated sense it should not be confused with love in the central sense – as it is expressed, among others in the central commandment of love. This commandment, which demands that we love God and our neighbour with all our heart, belongs to the RCT-dimension of creation and contains, for exactly this reason, an appeal for all the facets of our existence. When we talk about marriage, family or patriotic love, however, we are referring to only a sector of our existence and not the totality thereof. In Biblical usage this difference is obviously present. In distinction from those portions of Scripture which pertinently refer to the central sense of the commandment of love (e.g. Matt. 22: 37-40, Deut. 6:5, Lev. 19:18), we find many portions in which love is placed in a row next to other facets of reality. The statements in Gal. 5: 22 and I Tim. 6: 11 refer, for example, to the "fruit of the Spirit", and then mentions "love, joy, peace, ..." and so forth and mentions that towards which we should be striving: "faith, endurance and gentleness".²

In terms of these distinctions it is clear that the term **love** cannot be used without distinction to indicate the core of human personality. If it is used, however, to reflect the central religious meaning of the commandment of love, we have indeed moved a step closer to the mystery of human exist-

1. In Chapter 1 we saw that a distinction can be drawn between the **one** encompassing and determinative relationship of man – referred to as RCT (Radical, Central and Total) – and the various differentiated relationships within which man exists and within which he is only engaged in a partial and peripheral way (i.e. DPP-relations).
2. Note, by the way, that the same thing happens with regard to the word *faith*: it is sometimes used in the sense of a total heart commitment to God and sometimes – as in this instance (I Tim.6:11) – to indicate a virtue which is valued next to and in distinction from others.

ence. Scripture refers to the heart of human existence – which is, according to the poet of Proverbs, the wellspring of life (Proverbs 4:23). It is fundamentally a matter of self-knowledge, knowledge of the heart of human existence.

Can man attain self-knowledge out of himself? As a result of the Fall, which struck at man's heart – which is why Christ requires a reborn heart – man has been tempted in his sinful apostasy to try and find somewhere in creation a pseudo-place of rest for his heart – and, as we have already noted, it is only possible for man to find ultimate rest in God. For this reason Calvin could emphasize that true knowledge of man depended on true knowledge of God. Of course the opposite is also true: fallen man designs an anthropology in the light of his idolatry. In modern times man has been greatly impressed by the machine-like control of reality – with the result that a mechanical or mechanistic view of man necessarily followed. As the second half of the 20th century stands increasingly in the sign of the power of the computer, we find increasingly that man is being understood in computer terms: man as super-computer. David Lyons has recently shown to what extent all of society is being understood in these terms, as is strikingly suggested in the title of his book: "The Silicon Society".

The human self is nothing in itself, that is, it does not exist separately from the three central relationships in which God has placed man. First of all man stands in relation to God, then in relation to his neighbour, and lastly in relation to the totality of created temporal reality. Each of these three relationships are engaged in both the DPP- and RCT-relations in which man has a part. My relation to God is for instance not an esoteric inner room-experience which can be divorced from my being a citizen, husband, member of an ethnic community or student, since exactly in all these positions do I live out my love of God or idol. Similarly every relationship with a fellow human being – however differentiated and peripheral it may be – continues to appeal to the whole self, the heart of that neighbour. Finally every facet of creation is anchored religiously. We must realize that even the most apparently everyday actions are still directed out of the heart at either God or idol. Paul mentions these sort of activities – like eating and drinking – for good reason when it concerns the honour of God: "So whether you eat or drink or whatever you do, do it all for the glory of God." (I Cor. 10: 31).

It can only be a stumbling block for the centuries-old hubris of Western man – who has, since the time of Greek philosophy, developed a limitless trust in the capacities of human reason – to be told that man cannot come to true knowledge of the self by means of his own rational insight – only by means of true knowledge of God. True knowledge of God cannot be a human discovery, it can only be received from Christ in the reborn heart. When it comes to this deepest and most central question of life, fallen and sinful man cannot give anything. As Dooyeweerd has noted on occasion in this regard, man can only piously listen and receive.

8. The temporal 'Gestalt' of man

In view of the fact that man does not stand in relation only to the entire temporal reality of creation, but indeed has part also in the various dimensions of creation, we can indicate the multiple similarities between man and other created entities. While material things – atoms, molecules, macro-molecules and macro-systems – clearly belong to kingdom of physically-qualified things, human existence is by no means excluded from this sphere. Our physical existence is, after all, bound to the necessary presence of all the substances out of which we are formed – from the four "organic" elements (hydrogen, oxygen, carbon and nitrogen) to the variety of anorganic substances which are equally necessary for our existence. Of course the entire matter is complicated if we would want to pay attention additionally to the complex macro-molecular bonds present in the human body, even if it only affirms that man has a part in the physical dimension in the sense that his bodily existence is founded in this physical-chemical substructure.

This is not the end of the story, since man also has distinctive similarities with the kingdom of living creatures. Like all living creatures, the human body is also built up out of living cells. When we think about the biotic meaning of the many vital organs in the human body – organs such as the heart, lungs, brain – we realize that man has part, not only in a physical chemical substructure, but also in a biotic substructure. This biotic substructure is founded as a bodily structure in the physical-chemical substructure, since the human body could not be healthy without the necessary foodstuffs.

Both these substructures are in turn foundational for the sensitive-psychoic substructure, which houses man's complex sensory equipment and his equally complicated emotional life – which are both closely interwoven with his sensory and motoric nervous systems. On this level man is obviously very similar to animals.

In our discussion of the unique and distinctive characteristics of man it has become clear that man is in possession of numerous abilities which animals lack – even if we were to conclude on the common level of the substructures that man lacks a bio-psychoic specialization in comparison with animals.

When man acts under the guidance of normative values he transcends animal abilities. Normatively correct or incorrect behaviour is only possible for humans. No animal can think logically or illogically, shape historically or unhistorically, act socially or anti-socially, be thrifty or spendthrift, just or unjust. The lack of specialization of the three substructures mentioned (physical-chemical, biotic, and psychoic-sensitive) goes hand-in-hand with their directedness at the normative qualification of man's bodily existence. Dooyeweerd prefers to speak of man's act-structure. Since he limits acts to inner inclinations which must still be converted into external actions, it is probably necessary to find a broader term for this structure. Since the whole "normative instrumentarium" of man not only indicates the distinctively

human-ness of man, but also qualifies man in his whole bodiness, it may be well to refer to this qualifying structure – following the preference of my colleague prof J. H. Smit – as the *normative structure* of man.

When we want to refer to all four of man's structures the best term would be **personality**. The term personality encompasses the particular nature of each partial structure of the human being, i.e. it encompasses the typical human tempo (bound to the physical substructure), the inclinations of man (known as biotic dispositions – bound to the biotic substructure), the temperament (bound to the emotional-psychoic substructure) and the character (bound to the qualifying normative structure of man).

Since the variety of human expressions and bodily structures concentrate in the human heart (which belongs to the central-total dimension of creation), we can typify man conclusively as a *religious personality*.

9. The value of a comprehensive philosophical view

At the end of this chapter on the unique nature of man we briefly reflect on the value of such a comprehensive philosophical view of man. Medical science, for instance, is often accused of having lost a view of the whole and multi-dimensional existential reality of the human being – it easily reduces man to a mere biotic organism which can be manipulated as an object. Even from a nursing perspective this reduced view is sometimes accepted. The power of medical technique particularly grants apparent credibility to this reduction.

What is lost sight of is that man is indeed human, that in inter-human relationships man appears primarily and finally as a co-subject, and never in the first instance as a manipulable object. Of course there are many historical examples of societies which degraded man to a mere utilitarian object. We only need to think back on the institution of slavery which was still common practice in the West a mere 150 years ago.¹

To value and respect man as man in medical and nursing practice requires, before all else, recognition of the position of man as subject. Man as a religious personality is not finally qualified by any aspect of creation. While we can state with adequate proof that a material thing is qualified by the physical aspect of energy-working, or that the nature of plants is qualified by the biotic aspect of life, it would be meaningless to attempt to use any normative aspect as if it could qualify human existence.

1. The well-known neo-Marxist writer from the Frankfurt school, Jürgen Habermas, has a clear awareness of the difference between subject-subject and subject-object relations – as is clear from i.a. the distinction he draws between "communicative actions" (regarding subject-subject relations) and "technical actions" (regarding subject-object relations). P.J. van Niekerk indicates that this distinction has deteriorated into a fundamental dualism in Habermas's thought – cf. his doctoral dissertation (1982: 12-42, 82).

Say we were to claim that man is a social creature, that is, that man's entire temporal existence is encompassed by the social aspect. That would imply that man could only act in a social manner. What do we then do with those activities of man qualified by other aspects of reality – activities such as being economically engaged, analytical activities, just or unjust actions, and so forth. It is exactly the complete freedom of man to choose to act on different occasions under the guidance of any of the range of normative aspects which particularly distinguishes man's normative structure.

One moment man can be engaged in the scientific analysis of a particular problem or phenomenon, the next he can act technically formatively by forming something which could not come into existence by itself in creative freedom and with cultural creativity, then he can buy something (economic activity), appreciate the beauty of a sunset (aesthetic evaluation) or simply relax with friends (a social activity). We even discussed in Chapter 1 that this differentiated multiplicity of normative expressions of life correlates with the many societal relationships in which man is engaged – the DPP-relations of human existence.

If we are to meaningfully understand the multi-faceted subjectivity of human existence it is essential to recognize that human existence cannot be encompassed by or limited to any single aspect of reality – none of these aspects can qualify or finally characterize human existence. It is therefore not desirable to speak of the "kingdom" of human beings – "kingdoms" are limited to natural creatures: the kingdom of material things, the plant kingdom, the animal kingdom. This usage is linked to the specific qualification of each of these kingdoms by a particular aspect of reality.

Structurally this means that man's temporal, earthly existence is characterized by the richly varied normative structure of his body – a characteristic structure which is in itself unqualified by any particular normative aspect. Otherwise, man would be able to act **only** socially, analytically, or economically, as we argued above.

The illness of a patient normally involves a defect in their biotic functioning. Provisionally we shall disregard the matter of multiple possible causes of this biotic dysfunction – illness can be the result of a shortage of necessary chemical elements, defects in particular biotic organs, or even psychosomatic (tension, worry, excitement, and so forth). Primarily the duality illness-health has its origin in the biotic aspect of reality – physics does not even deal with these typically biotic terms.

Comment: In a different context Von Bertalanffy uses the distinction between physical and biotic terms to indicate the limitations of (evolutionistic) attempts to understand living beings in physical terms only. He writes that physics cannot even indicate the difference between a living and a dead dog: "The laws of physics do not tell a difference. They are not interested in whether dogs are alive or dead". He continues on the same page that this remains true even if we take

into account the most recent scientific advances: "One DNA molecule, protein, enzyme or hormonal process is as good as another; each is determined by physical and chemical laws, none is better, healthier or more normal than the other" (1973: 146).

The presence or absence of particular chemical bonds can without doubt have important implications for normal human functioning. Think of the important role of iodine in the nature and function of the thyroid gland. The thyroid gland (**glandula thyroidea**) is placed around the lower part of the human larynx and the beginning of the wind pipe. It is responsible for the secretion of the important thyroid gland hormone (thyroxine) which, probably via an influence on the process of oxidation (oxidative phosphorylation) in the mitochondria¹ initiates the exchange of substances throughout the body's cells. This is essential for normal biotic growth as well as emotional and psychic health. Iodine itself² is qualified physically-chemically in terms of its own inner structure. While retaining this inner structure it is however enkaptically³ bound in the biotic functioning of the thyroid gland. Only the thyroid gland functions subjectively in the biotic aspect of reality (it is alive) while it depends on the enkaptically bound iodine for the production (internal secretion) of the thyroid gland hormone. This biotic function – with its influence on the physical-chemical substructure in the human body – is itself foundationally enkaptically interwoven with the psychic-sensitive substructure and qualifying normative structure of the human being – as proven by its importance for the healthy emotional and normative life of man. A hyperactive thyroid gland causes excessive energy use which can lead to a faster heartbeat and a general unease, with accompanying heightened nervous sensitivity. It is clear that the interwoven iodine and thyroid gland functions within the integrated functioning of the entire human being. The theory of enkaptic structural wholes attempts to understand this enkaptic functioning of man as a whole in his bodily existence, keeping in view the complex substructural interweaving also present.

While all four of the human bodily structures have, apart from their enkaptic interweaving, a characteristic internal functional sphere, it is impossible to

1. It is one of the important 'organelles' in the cytoplasm of every cell which converts the energy in food into ATP – adenosinetriphosphate – to produce the necessary energy for various cell functions.
2. Concentrated by glandular cells out of the blood in which it circulates as iodide.
3. The term *enkapsis* was introduced by Dooyeweerd, following the biologist Heidenhein, to indicate cases where two differently-natured structures are interwoven in such a way that each retains its unique character. The constitutive substances of living things do not lose their physical-chemical qualification in living things. Thus we can say that such substances are functioning *enkaptically* – that is, retaining their physically qualified nature – in living things. Similarly both the material components and the biotic organs in a human being are enkaptically interwoven in the total bodily existence of man.

delimit any of them *morphologically*, i.e. to localize them in a particular part of the body. The foot, hand or leg of a human being is never simply physical, biotic or psychic. The whole human personality, in all four of its enaptically interwoven substructures, is expressed in every part of the body. For this reason exactly it is impossible for medical and nursing practice to try and work with a reduced "simply biotic human". This reduction can be directly linked to technicism, a force increasingly recognized by present-day philosophers as one of the dominant driving forces of contemporary Western cultural development.

During a guest lecture at the UOFS (18 October 1988) by prof. Egbert Schuurman – well-known Dutch engineer-philosopher – he referred to this pertinently.¹ The danger of such technicism is that it reduces illness and health to mere scientific abstractions – losing sight of the totality of human existence. Technique can only be of service if it escapes the limitations of this reduced abstraction:

"Wanneer de techniek in de gezondheidszorg een dienstbare plaats inneemt, wordt de verantwoordelijkheid van de geneeskundige vergroot, en krijgt hij naast aandacht voor preventie van ziekten en genezen, ook weer aandacht voor lijden, voor mee-lijden, verzorgen en de zin daarvan." "When medical techniques are used in service of medical care, the physician's responsibility is enlarged while his attention is, next to the prevention and cure of illness, directed towards suffering, co-suffering, care and the meaning of all this.")

Manipulation of the human embryo in particular easily loses sight that this embryo is the minimal enaptic structural whole of man as man. Such manipulation consequently has consequences for all four structures of human bodily existence – consequences which, in the light of the limited medical knowledge available in this regard, cannot be foreseen on several vital points. Such experimentation does not only affect particular biotic organs with regard to their internal biotic functioning, but rather man as a totality.

1. He briefly discusses this process as follows: "Technicisme is de pretentie van de mens om eigenmachtig heel de werkelijkheid met die wetenschappelijk-technische beheersing naar zijn hand te zetten, om op die wijze all voorkomende problemen op te lossen, en de materiële welvaart en geluk te waarborgen. De mens wil zelf heer en meester zijn, zélf schepper, zélf verlosser en vernieuwer. Het technicisme als een religieuze grondhouding manifesteert zich dus in het 'maakbaarheidsgeloof'. Spengler doelde eigenlijk op deze religieuze drijfkracht toen hij sprak van een 'technische heilsverwachting' als stimulans voor de technische ontwikkeling. De invloed van de technicisme kwam in de westerse cultuur voor het eerst in de geestelijke beweging van de Renaissance tot uiting. De reikwijdte ervan werd groter sinds de Renaissance een stempel zette op de westerse filosofie en de ontwikkeling van de wetenschap. Het mechanistische wereldbeeld komt tot ontwikkeling. Vervolgens hebben de Verlichting, het latere positivisme en pragmatisme er voor gezorgd, dat het technicisme dominant werd in de cultuur."

Apart from the limitations contained in the recognition of the enaptic interweaving of the human body, medical and nursing practice also has to take account of the variety of societal relationships (DPP-relationships) in which man takes part. Whoever enters these professions must not only have an integrated encompassing philosophical view of man, but also a balanced encompassing philosophical view of man in society.

With this last excursion we have however arrived at the end of this chapter. The next matter under consideration shall be an ordered and systematic analysis of the temporal reality within which each of us exists concretely – with regard to all the facets and structures which we can discern therein. Against the background of a number of historically meaningful philosophical problems – such as the tensions between unity and diversity, constancy and dynamics – we shall, within the context of a distinction between aspects and things, for the sake of continuity with the current chapter, focus attention in the next chapter on prominent aspects of a single concrete process, namely that of *dying*.

Chapter 3

Creation – Unity and diversity

10. Our experience of reality

Without really being aware of it, the first feature of reality which we experience from childhood is the rich diversity of creation.

The child who comes to consciousness about the world in which he lives is fascinated daily by the *new things* he sees, hears and touches, by the *new* questions he asks and by the *new* discoveries he makes. This ever-expanding field of experiences is ultimately guided by the many-sidedness and multi-variousness of creational reality *itself*. Our empirical world is not merely populated by the same *kinds* of things. There are not *only* flowers, *only* animals or *only* human beings. Even if we would abstract from all other kinds of entities and concentrate only on entities of a *specific kind* – like humans – our first awareness more often is not concerned with the *similarities* but with the *differences* between them. If, however, our attention is focussed on entities belonging to different categories, we are compelled to disregard the uniqueness of different entities while lifting out that which is common between all of them. For example, if we want to distinguish between humans and animals – as was done in the previous chapter – we pay only attention to that which constitutes the *being-human* of each individual human being and that which constitutes the being-an-animal of each individual animal. In other words, in order to accomplish this we solely have to lift out the *shared properties* between different human individuals (resp. different animals). Only what is (universally) present in all humans as humans (resp. animals as animals) is then of importance.

In our actual daily life each person is constantly engaged in similar processes of *lifting out* by *disregarding*, i.e. with acts of identification and distinguishing. Actions like these demonstrate the basic analytical abilities of man, since the act of analyzing something entails the recognition (identification) of certain properties by distinguishing them from other features. This state of affairs is also described by the word *abstraction*. Whenever someone is engaged in an act of abstraction he has to *lift out* (i.e. *identify*) certain

properties while simultaneously *disregarding* other properties (i.e. by distinguishing them from those identified).¹ From this it must be clear that *analysis* and *abstraction* are interchangeable terms – whoever analyses is abstracting and whoever is engaged in abstraction is analyzing.

In regard of the diversity in creation it is important to note that each activity of analysis or abstraction is always dependent on a *multiplicity* of givens which have to be identified and distinguished. It is precisely due to this inherent diversity present within the whole creation that we are able to analyze it. Formulated differently: analysis (abstraction) *presupposes* a given multiplicity transcending the limits of our analytical activity. In other words, were it not for the *more-than-logical* diversity within creation, it would in principle have been simply impossible to think analytically! The logical-analytical *thinking* of man presupposes the creational diversity.

10.1 Some problems in the history of philosophy

One of the remarkable features of the history of philosophy – as well as the history of the various special sciences – is that we encounter numerous attempts – and that by *using* our analytical ability to identify and distinguish – to *deny* this creational diversity. Mostly this denial is done in terms of the absolutization of one specific aspect which is elevated to the status of providing a principle of explanation for the entire world.

10.1.1 'Everything is number'

During the early phase of Greek philosophy the Pythagoreans realized the extremely fundamental place of number in reality. However, they were so impressed with this insight that they unjustifiably concluded that everything in reality *is number*.²

Simple integers and the relations between them (as expressed in fractions or rational numbers) are viewed as the key that can unlock every secret. However, the first 'undisclosable door' was given in the nature of *space*. There

1. The same applies to identification and distinguishing (lifting out and disregarding) – both imply each other. Suppose I want to identify the pen on my desk. In order to achieve this we simultaneously have to distinguish it from the desk and other entities in its environment. The *differences* making this act of distinguishing possible in turn pre-supposes the *similarities*, since the *differences* could only be established on the basis of the given *similarities*. Due to the fact that both the *pen* and the *desk* are perceivable and tangible physical objects (the *similarity*) are we able to discern the differences between them.
2. In their doctrine of harmony the Pythagoreans discovered that musical harmonies are seemingly reducible to *intervals* which could be expressed in terms of natural whole numbers (1, 2, 3, 4). By adding these numbers they reached the number 10 – the *tetraktis* – which provided the scale for evaluating anything. The entire cosmos was to their mind a tremendous piece of elevated music – finding its foundation in relations of number.

are spatial relations which cannot be accounted for merely with the aid of the rational numbers – for example the ratio between the diameter and circumference of a circle or the ratio between the diagonal and any side of a regular pentagram.¹

The relationship between unity and diversity embodies one of the *first* problems confronting philosophy and the special sciences as such. Philosophical reflection is always concerned with the *limits* of our knowledge. Greek philosophy sometimes speaks about philosophy as being the science of the *first principles* (Aristotle). Even if we consider the admirable developments of the natural sciences during the past few centuries, it is striking that certain *basic problems* constantly recur. In view of these recurrent issues the Dutch philosopher, H. Van Riessen, prefers to characterize philosophy as “the science of limitational problems (grensprobleme)” (cp. 1970:11).

10.1.2 Persistence as against changeability

Besides the problem of unity and multiplicity, Greek philosophy demonstrates various other enduring basic problems to us which still confront the practise of science in the West. Greek philosophers were first of all confronted with the *corruptibility* and *changeability* of man's temporal earthly existence. Amidst this awareness of the temporality and corruptibility of reality – from the titanic meaning-perspective closely linked with the changing seasons² – it is understandable that a deeply felt urge towards the incorruptable would arise. Although the oldest philosophers of nature focussed their attention on some specific *element* of nature which could serve as a *flowing* principle of origin of whatever we can perceive (like *water, earth, fire* and *air*), it soon became clear that the search for what is considered to be firm and *constant* turned out to be the implicit companion of the *dynamic* and the *changeable*.

Two of the earliest schools in Greek philosophy became, as it were, fixated on this bi-polar dilemma, i.e. on the relationship between that which is considered to be *persistent* and *constant* on the one hand and the supposed *dynamics* and *change* to which everything in the cosmos was subjected on

1. More or less in the year 450 B.C. Hippasos of Metapontum made a remarkable discovery – which implied an existential crisis for the pythagoreans since they elevated their arithmetical reductionism to the level of an ultimate religious certainty. Cassirer remarks that the counterpart of this crisis is found in the insight that although number does not constitute the ‘essence’ of things, it nevertheless provides the basis of rational knowledge of the world: “The claim that number grasps the essence of things was eventually given up; but at the same time the insight that number forms the basis of rational knowledge sharpened and deepened itself” (Cassirer, 1969:35).
2. On a sound basis Bos questions the accepted and influential conception developed in one of Nietzsche's early writings: *Die Geburt der Tragödie aus dem Geiste der Musik* (1872). In this study Nietzsche advances the conviction that Greek culture was dominated by a division between the Apollinic and Dionysian orientations. Cf. Bos, 1988:94 ff.

the other hand. Heraclitus, the complicated thinker of Ephesus, said: “one can never enter the same river twice”. Directly opposed to this approach Parmenides of Elea posited a reality excluding all *multiplicity* and *change* – whatever exists is simultaneously connected as one coherent whole in the present (B Fragment 8:3-6). Nothing becomes, everything *is*, everything participates in this *unchangeable static being*.

The best known theoretical antinomy in our Western scientific legacy stems from this reaction to multiplicity and movement. We encounter it in the argument of a philosopher belonging to the school of Parmenides – *Zeno*. Zeno argued that the big athlete of Greece, Achilles, would never be able to surpass the tortoise. In fact, a penetrating analysis would show that Achilles would not even be able to *catch up* with the tortoise! How did Zeno arrive at these conclusions?

Zeno argues as follows: suppose we assume that the tortoise starts with an advance of 100 meters. Then, obviously, Achilles first has to traverse this backlog of 100 meters. The time needed to accomplish this enables the tortoise to move forward, say up to the 110 meter mark. Seemingly Achilles is on the brink of winning the race. But in vain: on arriving at the 110 meter mark, Achilles discovers that the tortoise once again moved on another 1/10th of the previous distance which it traversed – now being on the 111 meter mark! Suddenly the hopelessness of Achilles' attempt comes into view: every time he traverses the distance he is still behind, the tortoise takes the opportunity to establish a new advance – an advance which, each time, is only one tenth of the distance which Achilles caught up. In other words: Achilles will never be able even to *catch up with* the tortoise, since constantly one tenth of the previously traversed distance remains to be traversed – however small this ‘tenth’ may be! Zeno concludes: movement is an illusion – whoever uses his understanding to logically ponder on this situation would realize that everything is embraced by a *static rest*, by *being*, that what *is*.¹

The confrontation of the schools of Parmenides and Heraclitus highlights various philosophical problems. We mention the following: if everything in reality is in a state of *static* (spatial) *rest*, then it is obvious that there cannot be any movement, i.e. that we have to deny the reality of movement. The influence of this emphasis on *static being* was so overpowering during the course of our Western philosophical legacy that we had to wait until modern times – in particular, the insights of Galileo (17th century) and Einstein (20th century) – to come to a clearer understanding of the nature of *movement*. To this point we shall return presently. The second issue is the question concerning that which is *constant* and *persistent* and that which is varying and changing. Apparently from our early childhood each one of us is confronted

1. When I explained this argument once to a philosophy class engaged in studying Greek philosophy, one of the students *took* the gap. He raised his hand and said: “Professor, if you happen to see me *moving* out of the class please don't worry, it is purely a deception of the senses.”

with this seeming tension between *constancy* and *dynamics*. Normally we connect it with our experience of *identity*. After all, my father and mother remain the same (constant/identical to themselves) in spite of the fact that they age all the time (i.e. *change*). My new jacket, beautiful shirt, lovely doll and enjoyable toy car also undergo the effect of use and play – and amidst all ageing that takes place the identity of these things is maintained – they remain the *same* clothes or toys. Whoever often looks in the mirror would realize that together with those changes that accompany getting mature and ageing it is always possible to recognize one and the same I.

10.3 Plato's theory of ideas

Plato was first of all fascinated with our experience of identity amidst all change. On the one hand he was influenced by a pupil of Heraclitus named Cratylus and on the other hand he wanted to maintain the views of Parmenides. The convergence of these two lines of thought materialized in Plato's search for reliable knowledge of things in the surrounding world. The problems which he was confronted by, however, was that if one accepts the constant flux taught by Cratylus, no basis would remain for the claim that we know anything. At the very moment that I say that I have come to know this tree or that animal, the tree and animal concerned have already *changed* – implying that I do not know the *new form* they took on. The speculative answer which Plato constructed for this problem consequently accepts as constant basis of all change the so-called super-sensory ideas. Every changeable entity possesses a unique essence (*αυτο το ειδος*). *This essence could only be grasped by our understanding since it is contained in an elevated (transcendent) realm of ideas. Proceeding from a Christian world and life view one would look in a different direction for an answer.*

The diversity in creation as well as the constant basis for all change could only refer to God's law-order for creation. This law-order not only guarantees the diversity in creation but also makes all change and dynamics as such possible. Consequently this cosmic law-order also lies at the foundation of our scientific reflection on the multifaceted nature of created reality. The question concerning the relation between *unity* and *diversity* which is closely connected with the relation between *constancy* and *dynamics* compels us to account for the different dimensions of reality.

In Chapter 1 we discussed the distinction between RCT and DPP. In Chapter 2 we characterized the RCT dimension as the *religious dimension*. The various branches of our human existence belongs to two other dimensions of reality, i.e. the dimension of *aspects* (properties) and the dimension of *entities*. The forth and last dimension we can distinguish is the dimension of time – the whole creation is *temporal* – only God exists eternally.

11. Entities and their properties

Henk Hart opens his extensive work on our understanding of the world with the following striking explanation – an explanation focussing on the *things* we can experience, the *properties* (attributes) we can discern and the *relations* existing between these entities:

"Our universe, the empirical world of time and space, is populated by little girls, white-tailed deer, yellow slippers, planets and many other things. We can attribute what may be called qualities, or functions, or properties to all of these entities in our world and we can say that they relate to each other. Little girls are cute and have mothers. White-tailed deer are fast and eat leaves. Yellow lady slippers have brown spots on their petals and need light. Planets move around the sun. We can record countless situations that always have these three elements: *things* with *attributes* in *relation*. Little girls feeling warm as they are cuddled by their mothers. White-tailed deer standing motionless as they listen to a sound. Yellow lady slippers hanging low as they bend under the weight of unexpectedly late snow" (1984:1).

Our experience of reality always concerns this trio of *entities*, *properties* and the *relations* between these things. The same applies to all events we can experience. Events are always *delimited* by the various dimensions of reality. Since philosophy is precisely that discipline which reflects on the *limits* of our experience, i.e. pondering on the *horizons* of our possibilities, we proceed by demonstrating the interwovenness of entities and their properties in terms of the many-sidedness of a *terminal event* appearing within the daily routine of the medical and nursing professions – the process of *dying*.

That the terms *health*, *illness* and *dying* first of all refer to the biotic aspect of reality was already shown in Chapter 1. Every living entity actively (i.e. *subjectively*) functions within this aspect. *Life* itself is not an entity – it is only an aspect of entities which also display – next to their biotic function – other facets. Living entities do not merely function in the biotic aspect, since they also function in the physical aspect (think about the metabolic processes taking place in every living entity), in the kinematical aspect of movement, in the spatial aspect (cp. the bio-milieu of living entities), and so on. Distinguishable from the original biotic meaning of the term *life* we naturally encounter many non-original (i.e. *analogical*) usages of this term: simply compare expressions like *psychic life*, *lingual life*, *social life*, *legal life*, and so on. It stands to reason that the term *death* could similarly be used in non-original (analogical) ways.

Normally the properties of entities refer to particular functions or aspects of those entities. As a result all scientific disciplines use *property-terms* or *concepts of function*. Biology uses concepts of function such as *growth*, *adaptation*, *procreation*, *survival*, *dying* and so on. Concepts of function in physics are, for example, the concepts *volume*, *pressure*, *entropy*, *mass*, and so on. Typical concepts of *entities* always form the counterpart of these concepts of

function since every possible property which we can mention is always connected with certain entities. Plants, animals and human beings live, grow, procreate and die. Physics uses typical concepts such as atom, molecule and macro-molecule. Or to take a different example: *beauty* is an aesthetical concept of function which should be distinguished from an *art work* as a typical structural concept of aesthetics. Nowhere do we encounter *beauty* – though it is possible to experience beautiful entities.

Distinct from plants and animals, man also functions actively (subjectively) in the normative aspects of reality, i.e. in the distinctly human aspects of logical thinking, (cultural-) historical formation, signification, social intercourse, frugality, aesthetic evaluation, the legal mode, the moral aspect and the aspect of faith.

11.1 The process of dying

Since *dying* is a process functioning simultaneously in different aspects of reality it is possible to approach this process from different angles. First we look at the legal aspect of the dying-event.

11.1.1 The bodily integrity of man – a public legal interest

As a unity man not only functions as a *biotic subject* but also as a *legal subject*. The recognition of the legal subjectivity of man was – historically seen – dependent on the rise and development of the modern state, since before this era Western civilization only knew *realms* (kingdoms). Realms or kingdoms were not *public legal institutions* since they were the private possession of the king concerned. As a result the status of citizens could not be evaluated as (public) legal subjects.

As maintainer of law, the government of a modern democracy is called to establish balance and harmony within a multiplicity of legal interests by legally undoing the infringement of legal interests whenever it occurs. This differentiated task also relates to the subjective legal interest which each legal subject has in connection with his *life*. In terms of constitutional law this legal interest is seen as a *public legal interest*. This means that the *public*, i.e. the *citizens*, have an interest in the protection of the *bodily integrity* (life) of each of its citizens.

Remark: Please note that this subjective legal interest should not be identified as a supposed *subjective right* which man would have had on his life. The distinctive feature of a subjective right is given in the relation to a legal *object* which, in a factual sense, the person may enjoy and dispose of – also implying the *competence* to get rid of the legal object. This *competence* to get rid of the legal object, however, must not be identified with the *factual disposition* over it. Precisely because human life belongs to the full subjectivity of man, this *life* should never be objectified into a legal *object* (as in the case of slavery). One cannot put aside your 'life' as one can do away with a legal object. The conception that the *subjective legal interest* which

man has in connection with his life (his biotic subject function) should be viewed as a *subjective right* on it is founded in the legacy of *natural law* dominant during the 17th and 18th centuries. Following Locke, a subjective right is even equated with that which is not forbidden by positive law. Of course, then an unlimited number of subjective rights on *life, freedom, sleeping, breathing* and so on "exist". Thon (a German jurist) once pointed out that we then have to accept the contradictory view that the life, breathing, movement, sleeping and eating of people who are considered incapable of legal acts would not qualify as subjective rights, whereas those of people who are capable of legal acts would qualify as the exercise of subjective rights. In order to exercise rights one has to be of legal capacity. The result would be that people incapable of executing any rights cannot have any subjective right on their lives, implying that they could arbitrarily be (ab)used for organ transplantations without fear of committing any crime!

11.1.2 The dignity of man

Of course the recognition of the *dignity* of man does not only refer to the *legal aspect* of reality, since it also points to the coherence between the legal and the ethical aspects. The legal task of integrating diverse legal interests on the territory of a modern civil state (democracy) is, after all, deepened when the legal aspect *anticipates* (opens up its meaning) towards the *ethical facet* of reality. These deepened legal principles, which are also known as *legal ethical* principles or as *principles of juridical morality*, demand the recognition of the *dignity of the human personality*.¹ Next to the ethical aspect we can also take the faith aspect into consideration.

Seen from this aspect it must be clear that man does not dispose of his own life. Juridically seen we say that no man has 'dispositional power' (*beskikingsmag*) over his life since it would degrade his subjectivity into an *object*. Religiously seen we say that God determines the destiny and duration of human life.

11.1.3 Euthanasia

Of course, the process of dying is surrounded by a number of difficult questions. Most prominent is the question concerning the nature of the guidance which is given to the dying patient. In this context we have to consider the term *euthanasia*. This can indicate (i) aid during the process of dying without any shortening of the life-span of the patient (unproblematic); (ii) aid with a possible (reasonably foreseeable) shortening of life (legally and in other respects problematic); (iii) actually causing the death of the patient, be it on request of the patient or not (for example in the case of unbearable suffer-

1. Article 1 of the *Bundesgesetz für die Bundesrepublik Deutschland*, 1949 reads as follows: 'Die Würde des Menschen ist unantastbar. Sie zu achten und zu schützen ist verpflichtung aller staatlichen Gewalt'. ('The dignity of man is unassailable. The obligation to respect and protect it is the final norm directing the use of all political force'.)

ing). Even when the patient requests it, this form of euthanasia is highly problematic from a legal perspective in most Western countries; (iv) the terminating of life which is considered to be worthless. This option was practised in primitive form by the Spartans and ancient Germans who applied it to malformed children, incurable diseases and aged people. In our modern time it recurred in Nazi Germany. This form of euthanasia does not find any support in present day Western World.

11.1.4 The sensitive and biotic facets of the process of dying

In order to further proliferate the many-sidedness of the process of dying, we now look at the *proliferative* and *biotic* aspects of this process. Seen from a biotic perspective "suspended animation" ("skyndood") differs from true death in the sense that only in the latter case do we encounter phenomena of decay ('ontbinding'). The self-demolition of an organism is accomplished by the functioning of its own cell-organs, known as *lysosomes*.¹ When the heartbeat and breathing cease, the situation is designated by referring to *clinical death*. However, it frequently happens that victims of accidents still function biotically although the activities of the brain are damaged beyond repair. In spite of continuous developments in this domain, we may refer to the practice which is described by dr Repko (cf. 1975) as an example of the way in which the moment of death is medically determined.

- (i) there must be no reception of or response to impressions;
- (ii) there must be no spontaneous breathing when the respirator is turned off for a period of three minutes;
- (iii) there should be no reflexes; and
- (iv) the EEG-test should not register any brain activity.

These four points must be checked – 24 hours apart – by two doctors. If both tests are totally negative, the patient is certified dead and only *after* this certification is the respirator withdrawn.

Because – as we have already remarked – the *integrity of the human body* constitutes a public legal interest which should be protected by the government, it is important that the *legal security* of the citizens that the mentioned four points should be checked 24 hours apart. As far as human life and death is concerned there should not, in any sense, be any legal doubt. The confirmation that somebody is dead is therefore an administrative legal assessment which on the one hand refers to the sphere of competence of medical evaluation and on the other hand refers to public administrative law providing the administrative judge with the competence (for the sake of legal security) to perform an act of *marginal testing* (as it is called in Dutch law). In this act of marginal testing the principle of legal balance (the principle of legal

1. They were discovered in 1955. Lysosomes are enclosed in a membrane and they are the seat of specific hydrolytic enzymes which play a role, amongst other things, in the process of autolysis.

economy) is applied enabling the administrative judge to move as it were up to the borders of the sphere of competence of the doctor in order to decide whether the doctor did indeed only act *within* his medical domain of competence or whether in fact he superseded these boundaries. Of course this meaning of the act of marginal testing presupposes an internal domain of competence for medical decisions by the doctor which in principle lies *beyond* the legitimate area of administrative law.

11.1.5 One 'moment of death'?

The variety of aspects discernable in the process of dying is further emphasized when we ask when a person has died: is there only *one* moment of death?

The way of posing this question ensures that our answer should refer to our awareness of time. However, if *time* is, as is generally and unjustly done, identified with *physical* duration (clock time), we would never be able to answer this question! Although physical time forms the basis of the determination of *biotic* moments of time, it remains completely *external* as far as the *internal biotic time phases* of birth, growth, maturing, ageing and death is concerned. These biotic time phases are not at all homogeneous – in the case of all living entities the process of ageing always accelerates, in comparison with the earlier process of growth, when it is measured with external *physical* (i.e., *homogeneous*) clocks. After all, the biotic question: when has somebody died? does not pertain to the physical question: when (according to a normal watch) has someone died? If this was the meaning of the question concerning the moment of death, we would have become victims of a vicious circle: in order to determine the external physical moment of death one must already have decided on internal biotic grounds that the person is dead. This determination, however, requires from the doctors assessing the situation the necessary *medical interpretation* of the relevant phenomena 'symptoms' accompanying the process of dying.

The four check points mentioned above, nevertheless, call forth further burning questions. If *all* the points checked were *negative* but the respirator is not yet withdrawn, doctors easily use the following contradictory expression, namely that a person is 'dead' but is technically kept 'alive'. The contradictory affirmation and denial of two opposite predicates *living* and *dead* is seemingly relativized by placing in parentheses the term 'life'. In this context we must note that the four control points are not assessed in the same *circumstances*. Points (i), (iii) and (iv) are executed while the respirator is supporting the patient, while point (ii) is established without the aid of the respirator. In the case where all four points of testing are negative it is said that the patient is dead in spite of the presence of the respirator. Suppose that only point (iii) is not negative. In terms of the mentioned criteria the patient should then be called alive, even if it is on the basis of the aid of the respirator. In this condition the aid of the respirator enables the patient to display sensitive *reflex* activities as well as biotic activities. If, under the same

conditions, a later state occurs where the sensitive activities (reflexes) disappear it would be, in a logical sense, completely justified to declare that the person is biotically still alive (even if it is with the aid of the respirator), since in the same sense during the presence of reflexes it was stated that (also with the aid of the respirator) there is still *psychic activity* present!

11.1.6 'Dead' but artificially 'alive'?!

This seeming contradiction could be solved by distinguishing between death in a *biotic* and a *psychic* sense.

It is not contradictory to claim that someone is *psychically* dead but still *biotically* alive. Thus seen it is also no longer necessary to use the term 'life' in quotation marks. Only after the withdrawal of the respirator does the person die in a *biotic* sense. In view of these insights we could ask whether medical personnel sufficiently account for the difference between death in a *psychic* and a *biotic* sense. If this distinction is posed within the legal question in the context of administrative law (marginal testing) there may turn out to be cardinal implications within the domain of penal law, which takes us to the euthanasia problem of terminating biotic life considered to be worthless.

With regard to the moment of death, however, it is possible to conclude that since the process of dying functions within different aspects of reality there is not only one moment of death. Legally seen, a person is dead whenever the medical administrative legal assessment is made (for example after the second test after 24 hours elapsed). Since all four points should already be negative at the beginning of the 24 hour period, one can almost state with certainty that some time *prior* to the first test, the patient was dead in a *psychical* sense. Because the respirator is only withdrawn after the legal judgment is made at the end of the 24 hour period, the *biotic* moment of death is *after* the *juridical* moment of death. In respect to this medical practice one can – i.e. in the case of brain damage and the need of the respirator – conclude that the moment of death is different depending of the question whether we view the dying process from the *sensitive psychical*, the *juridical* or the *biotic* aspects! Of course each one of these moments of death could be correlated externally with a particular *physical* moment in time – which once again confirms that the *physical concept of time* could never be used to determine the moment of death according to its *internal* biotic, *psychical* or legal sides.

Although we did not pay attention to *all* the modal aspects of the process of dying, our preceding analysis should certainly demonstrate that things and events in reality are not situated in isolation next to each other. Everything has *relations* with other things. Formulated in a more fundamental fashion: Everything coheres with everything else in creation. The question is: along which lines would it be possible to gain an insight into this fundamental *coherence* existing between everything created?

11.2 Establishing relations among diverse things

Say we were a primary school teacher trying to deepen and open up the numeral understanding of our pupils. We know well that most children going to school these days can count to some extent. Their experience of counting, however, is bound to a considerable extent to particular things which they have learned to count: so many people, so many toy cars, so many dolls, so many sweets, and so forth. One way to use this experience is to present various different things to the children: say, a basket with four apples; a chair with four legs; a photo of a father, mother and two children; and a book with four dogs on the cover. The question to the children is to find the similarity among all these different collections of things. Keep in mind that the things which the children are seeing fall in widely different categories: they range from material things, plants (fruit) and animals to people and human relationships (a family). Judged in this manner it may appear to the children that there are only differences present. As soon as we draw the attention of the children to the question of **how many**, that is, how many entities are present in each little bundle, they would soon recognize that each contains *four* entities.

Something extremely important has happened. By means of the perspective of the aspect of number we could identify a relation among seemingly extremely divergent sorts of things. The aspect of number reveals a universal relation among diverse entities in reality. Numerical concepts are therefore relational concepts – such concepts reveal fundamental relationships among different things. These relations depend on the fact that each of the entities concerned functions in the numerical aspect of reality.

11.3 Dichotomous pairs in language

Even human language reflects the distinction between functions (characteristics) and things: nouns are linked to our awareness of things and verbs with the activities (functioning) of things. Linguists occasionally pose the question why certain lexical contents have immediately evident contrary oppositions (antonyms), such as "old"/"young", while others do not, such as "book"/"?". Geckeler is of the opinion that this problem has not yet been solved by linguistics (1971:242). W.J. De Klerk notes also that most adjectives occur in dichotomous pairs, such as short-tall, poor-rich, narrow-broad, ill-healthy, and so forth (1978:114).

This problem reflects the fundamental cosmological distinction between things and aspects of things. The thing-question we can call the **what**-question, and the aspect-question we can call the **how**-question. When a particular thing has been identified, we can always ask: **how** is this or that? is it many or few (numeric how), short or long (spatial how), fast or slow (kinematic how), strong or weak (physical how), is it healthy or ill (biotic how), painful or pleasurable (sensitive-psychic how), logical or illogical

(analytical how), historical or unhistorical (historical how), lingual or un-lingual (semiotic how), friendly or ill-mannered (social how), thrifty or wasteful (economic how), ugly or beautiful (aesthetic how), just or unjust (juridical how), loving or hating (ethical how), believable or unbelievable (faith how).¹

11.4. The multi-faceted uniqueness of things

The **how**-dimension directs us to the way (mode) in which all things (entities) exist. We can speak of ways of being, ways of experience, or modalities (aspects). It is important, however, to realize that every entity still – just like the dying process analyzed above – functions concretely in every mode according to its typical nature. The concrete function in the biotic mode of a plant and an animal differs.² So also does the way in which a plant functions in the physical aspect differ markedly from the physical characteristics of non-living things. Karl Trincher³ mentions four macroscopic characteristics strikingly illustrating the physical uniqueness of a living cell (1985:336):

- 1) The macroscopic spatial structure by which the cell is defined as a spatially limited surface;
- 2) the macroscopic temporal structure, which determines the finitude of the working cycle of the cell;
- 3) the isothermic character of the cell, which is responsible for maintaining the even temperature of the whole cell;
- 4) the lasting positive difference between the higher cell temperature and the lower temperature of the surrounding external environment.

The modalities (ways of being) form universal contexts within which the various entities in reality (material things, plants, animals, cultural products, life forms, people and all sorts of happenings) exist and function. This functioning is evidence of the inherently dynamic nature of reality, which (as we have already observed) is reflected in all languages by the presence of verbs.

In view of these two dimensions of reality Geckeler's problem mentioned earlier becomes transparent. The reason why a lexical item such as book cannot be immediately bound to a contrary opposition as in the case of "old" and "young", is simply because the latter does and the former does not appeal to the **how**, which is distinct from the dimension of things (to which a word like

1. Note that we consequently chose the un-form from the logical experiential mode (aspect), although it is also possible to choose other forms, e.g. cheap and expensive, which is not necessarily equivalent to economic – un-economic.
2. In distinction from animal cells, plant cells have a clearly-defined cell-wall – which is connected to the absence of a nervous system in plants.
3. Dept. of Medical Physiology, University of Vienna.

"book" appeals.¹ This state of affairs is probably linked with the tendency of certain languages (such as Persian) to structure reality "substantively", while other languages (such as Classical Greek and German) prefers a verb-structure with numerous forms of the verb and numerous words developed on a verb-base.²

12. The diversity of aspects in our experience of reality

No single special science can escape the need to develop an explicit or implicit perspective on the diverse aspects. This theoretical view of the relationships among and coherence of the various aspects of reality form the philosophical core of every theoretical view of reality. While we shall mention views based on what we believe to be misconceptions of this given creation-diversity, we shall first account systematically for the way in which this matter has been understood in the reformational philosophical tradition.

12.1 Characteristics of a modal aspect

To gain a brief overview we shall first mention the unique characteristics common to all aspects of reality.

- a) It is necessary to emphasize again that aspects do not appeal to the concrete **what** of anything in reality. All concrete entities – planets, plants, animals, man, cultural objects, and even human societal forms (such as state, church, business or ethnic group) encompass our experience in a different way from the various aspects of reality. The limits or horizon of human experience is characterized by a number of dimensions. The dimension of entities always refers to the entire **what**-ness of things and differs as such from the dimension of aspects which refers to the way in which different things exist. These ways of being (Latin: *modi*) brings us into contact with a very important dimension of the human experiential horizon. The relation with the Latin expression *modus quo* enables us to refer to the dimension of aspects as the dimension of *modalities*. We shall also often refer to *modal aspects* to emphasize that we are concerned with fundamental modes of reality. There are numerous other terms available to describe this dimension of reality – *facets* (from the French), *sides* (a term with spatial connotations), *functions* and so forth.

In distinction from the *what*-question the dimension of aspects remains concerned with the *how*-question. In answer to a *what*-question we can refer to something: *this* or *that*. The entrance to the dimension of entities is offered to us by the dimension of modal aspects. Whenever some-

1. Other word types (than adjectives) can also act as indicators of the how-determination of reality.
2. Cf. Coseriu, 1978:43. We can say here that the formal dimensional conditioning of language formation determines the two extremes of an independent noun and verb structuring.

thing is indicated (e.g. a lounge chair) the modal dimension calls forth the *how*-question: how is the chair? is it large or small (its spatial way of being); cheap or expensive (economic function); weak or strong (physical aspect); beautiful or ugly (aesthetic modality)? The how question can be answered with: in this or that way, in distinction from the this or that which indicates the answer to the question about the concrete what of something.

- b) A second distinctive characteristic of the dimension of modal aspects is the uniqueness of every distinct aspect. It is noticeable that every modal aspect is characterized by a central structural moment which actually presents three particular characteristics at the same time. This central moment, or core of meaning, is not only *unique* and *irreducible*,¹ but also *indefinable*. These characteristics have to do with the *sovereignty* of the aspects of reality.
- c) The other side of the coin is the indissoluble coherence among the various aspects of reality. Every aspect reflects the whole diversity of aspects insofar as there are moments of coherence within the structure of every particular aspect which refers to the other aspects. This characterizes the *sphere universality* of the aspects of reality.
- d) Since the aspects belong to the diversity of order in reality, we meet an *order (law) side* and a *factual side* within every aspect. God's creational law determines and delimits the existence of everything which functions factually in the aspects of reality.
- e) On the factual side of every aspect we find factual subject-subject relationships and factual subject-object relationships. All physical entities (including atoms, molecules, macro-molecules and macro-systems) function subjectively in the first four aspects of reality (number, space, movement, and energy-working). The interactions during a chemical reaction are interactions among various physical subjects, and thereby demonstrate the nature of a subject-subject relationship. When we refer, however, to the role of a physical substance in the life of a plant (e.g. the vital water), it no longer has a subject function but an object function. Water is a physical subject, not a biotic subject – it does not live. Similarly the twigs with which a bird builds its nest does not have a subject function within the sensitive-psychic aspect, even though it is indissolubly involved in the subjective emotional life of the bird as an emotional object. In the normative aspects of reality we find similar subject-object relations – compare the nature of cultural objects.
- f) The last characteristic we shall mention with regard to the aspects of reality is the particular relationship between the order and duration of

1. The example of Achilles and the tortoise at the beginning of this chapter demonstrates the absurd consequences which result from the attempt to theoretically reduce movement to static spatiality.

time revealed in every aspect. In the biotic aspect we can distinguish the biotic order of time in birth (germination), growth, maturation, aging and death. While every living entity (plant, animal and human) is subject to this order, the factual DURATION of life of every distinct entity differs widely – from annual plants to the long life expectation of people and certain animals.

We will illustrate these characteristics of the aspects of reality with a few examples and problems.

12.2 The unique nature of number and space

The aspect of number is identifiable as a distinct facet due to its core of meaning, discrete quantity. Continuous extension, as the core of meaning of the spatial aspect, similarly enables us to identify and distinguish the aspect.

12.2.1 Arithmetizing mathematics

After the discovery of irrational numbers (currently more often referred to as real numbers) in Greek mathematics, an attempt was made to reduce number to space by seeing all of mathematics as geometry (Cf. Boyer, 1956:8 ff.). During the previous century Bolzano, Weierstrass, Dedekind and Cantor contributed to the apparently complete arithmetization of mathematics – an attempt to reduce space theoretically to number.

Already in 1872 Richard Dedekind published a work (on continuity and irrational numbers in which he explicitly declares that when the irrational numbers are added to the rational numbers (i.e. to the fractions), "the area of the numbers attains the same completeness, or as we can also say, the same continuity as the straight line" (Dedekind, 1969:9). A couple of pages later Dedekind mentions his "cut"-idea, in which he uses his final definition of continuity (Dedekind, 1969:17). Georg Cantor, who established the foundations of modern set theory, is also of the opinion that he is dealing with a purely arithmetical concept when he talks of a point-continuum (Cantor, 1962:192).

12.2.2 A stumbling block

In these supposedly purely arithmetical definitions of continuity, continuous use is made of a fundamental structural characteristic of the spatial aspect: the whole-part relation. The concepts *whole*, *coherence* and *totality* appeal to the original irreducible meaning of the spatial aspect. The apparently "purely arithmetical" definitions of both Dedekind and Cantor deal with the idea of sets of numbers as infinite totalities, implying that the unique character of the spatial aspect is essential in the attempt to reduce space to number – an obviously circular argument! Paul Bernays says in another context regarding the *totality character* of continuity: "(it) undeniably belongs to the geometric idea of the continuum. And it is this characteristic of the continuum which would resist perfect arithmetization" (Bernays, 1964:283-4; cf. Bernays, 1976:74). The recognition of the reciprocal irreducibility of number and space is not only tenable in view of the current state of affairs in mathe-

matics, since it is also confirmed indirectly by the history of mathematics and the nature of the current foundational studies in mathematics. With regard to the history of mathematics E.T. Bell writes: "... from the earliest times two opposing tendencies, sometimes helping one another, have governed the whole involved development of mathematics. Roughly these are the discrete and the continuous" (Bell, 1966:12). Fraenkel and others comment with regard to the foundational studies in mathematics: "Bridging the gap between the domains of discreteness and of continuity, or between arithmetic and geometry, is a central, presumably even *the* central problem of the foundation of mathematics" (Fraenkel et al., 1973:211). It is sufficient to realize that it is justified to keep in mind the irreducibility of the numerical and spatial aspects.

12.2.3 The whole-part relation

There may be differences of opinion with regard to the placement of the whole-part relation in the spatial aspect. Is it really true that our awareness of "wholes" and "parts" only comes to the fore in the spatial aspect?

A first possible candidate would be the concept "unity". Aristotle already realized, however, that units are discrete, that is, that numbers, as discrete units, do not possess a common barrier. Only when there is indeed a common barrier can we speak of a coherence (continuity) and of a connected whole (totality). This sort of continuous coherence is unique to spatial extension and indeed implies that the whole-part relationship first appears in the spatial aspect of our experience. Exactly because every part of a spatial continuum coheres with every other part, the infinite further division of spatial continuity is necessarily linked to this. Spatial continuity founds not only the nature and original meaning of the whole-part relationship, it also founds the infinite divisibility of such continuity.

A further problem is the prevalent use of the whole-part relationship without asking whether such usage takes into account both the differences and similarities with its original usage in a spatial sense. The sort of problem which arises is evident already in physics.

It was initially thought that physical space, in analogy with the infinitely divisibility of spatial continuity, is also infinitely divisible. It soon became clear that this is by no means the case. The famous mathematician of the first half of this century, David Hilbert, referred in his commemorative article for Weierstrass (on infinity) to the "naive impression" according to which physical events and matter is continuous. Against the old dogma that nature shows no hiatus (does not make any jumps), the current investigation continues to show limits to the divisibility of matter, indicating that indeed, "nature makes jumps" (1925:81-82). Additionally he indicates that the presupposition of the infinitude of the universe rests on the implementation of Euclidean geometry which has been replaced by non-Euclidian geometries in the description of physical nature. Non-Euclidian geometries do not

enable us to conclude an unlimited physical space on the grounds of its infinitude (1925:83).

In distinction from the original sense of space (with the implied whole-part relationship), which is both continuous and infinitely divisible, physical space is both discontinuous and finite! Apart from these mentioned differences between spatial extension in the original sense and the nature of physical space, there are also similarities: both are *extended*. For that matter: in this moment of similarity we actually notice the difference between these two types of extension, since only insofar as both possess extension, the distinct natures of spatial extension and physical extension become evident.¹

12.3 Perpetual motion

From antiquity there have been attempts to make a machine which, once set in motion, would continue this motion perpetually without using an external source of energy.

At the beginning of the seventeenth century Fludd designed a closed-circuit water mill. This initially appeared quite feasible, but every effort to actually make it work practically, failed.

Already in 1775 the French Academy for Science and Art decided to pay no further attention to purported designs of "perpetuum mobile". In England also all claims to the patent rights on such machines were subjected to the provision of a working model – to no positive effect. The question is: why doesn't it work?

To understand why this sort of perpetual motion machine cannot work, we must refer to the first main law of physics. The underlying idea of perpetual movement, after all, is that useable energy would be produced without using any energy. Practically, this means that energy would have to be created. What does this first law say?

Stimulated by German natural philosophy at the beginning of the previous century (especially the ideas of the philosopher Schelling), German natural scientists searched for a unifying law which would encompass all physical phenomena in a single perspective. The physicists Helmholtz and Mayer and the chemist von Liebig held the notion of the indestructible character of matter even before experimental evidence proofed them right.

At the youthful age of 26 Helmholtz presented a formulation of his first main law of physics (actually thermo-dynamics) in 1847 to the *Physics Society* of Berlin. He began by pointing out that no-one had succeeded in building a

1. As we shall still see, this state of affairs demonstrates exactly what we have understood with regard to the moments of coherence among various modal aspects. Such moments of coherence are also referred to as *modal analogies*. To explain this point of view we start off with a problem which has long stimulated human fantasy: perpetual motion.

successful perpetual motion machine. This was a logical consequence of the indestructibility of energy. Till the present physicists recognize this law as the law of energy conservation which means that energy cannot be created or destroyed.¹

In view of the law of energy conservation it is quite clear today that the construction of such a machine is principally impossible, since it would mean that useful (newly created) energy would be released without using any energy!

Comment: A second such sort of machine had also been imagined – a machine which would draw heat from its environment and then convert this entirely into work. The impossibility of such a machine is evident in view of the second law of thermo-dynamics, that of non-diminishing entropy. Statistically this means that in any closed system the most likely situation would occur. Since there would always need to be a difference in temperature in the environment in order to convert heat into work, the second law implies the impossibility of this type of machine.

These two main laws of physics are fundamental insofar as they are universally applicable to all physical entities. Laws which indiscriminately count for all entities, must completely ignore all the typical differences between such entities. Such *modal laws* indicate the fundamental ways of being or modi of such entities. To deduce universal modal laws requires the scientific activity of analysis which we call *modal abstraction*.

12.4 Constancy and change

To grasp the physical modality (way of being) of physical entities, it is necessary to ignore their non-physical aspects – these are the two legs of abstraction. Amongst other things, this implies that it is essential to clearly distinguish between the physical aspect of energy-working and its founding kinematic aspect – that is, the aspect in which we refer only to uniform movement without referring to the cause of movement. Movement – as the mode of constancy – is an original given, just as number, space, the economic or the ethical. For this reason Galileo's law of inertia implies that we may at most speak of the origin of a *change* in motion! All change presupposes a continuing basis. If you do not remain yourself (constancy), you would not be able to age (change)! The importance of our understanding of constancy and change (dynamics), justifies a closer discussion of their nature and origin – which would also enable us to demonstrate further structural characteristics of modal aspects.

Since the development of Galilean mechanics and the formulation of his mentioned law of inertia, classical physics attempted to encompass all bodies exclusively under the aspect of *mechanical movement*. Since Newton

1. This law does not exclude the fact that one energy form can be transformed into another energy form.

until the beginning of the 20th century this attitude characterized the main tendency in physics. Max Planck (who discovered the working quantum h which presents the fundamental discontinuity of energy), typifies this mechanistic attitude as follows in 1910: "the view of nature which best served physics until today has without doubt been the mechanical. If we take into account that this position holds that all qualitative differences are finally explicable by movement, then we may well define the mechanistic view of nature as the conviction that all physical processes are fully reducible to the movement of unchanging, similar points or elements of mass" (Planck, 1973:53).

In the theory of movement all processes are principally reversible. Already in 1824, however, Carnot discovered principally irreversible processes – a discovery independently worked out by Clausius and Thomson in 1850 into the second main law of thermo-dynamics.¹ This law explains the principal irreversibility of natural processes: in any closed system the law of non-diminishing entropy takes effect – changes in a closed physical system can only take place in one direction, being irreversible. That is why Max Planck notes in his previously quoted work that "the irreversibility of natural processes besets the mechanistic view of nature with unbridgeable problems" (1973:55). Since the discovery of the decaying process of radioactive materials it has appeared that irreversible processes which spontaneously take place in one direction are also present in micro-structures. The irreversibility of the physical order of time (as encapsulated in the law of non-diminishing entropy), confirms without doubt that the physical aspect cannot be reduced to the kinematic aspect.²

Initially Dooyeweerd did not distinguish between the kinematic and physical aspects. Since 1950 he does draw this distinction – amongst others since kinematics can define a uniform movement without reference to any causative force (as in the case of Galileo's inertia) (Dooyeweerd, 1969-II:99).

12.4.1 The core of Einstein's theory of relativity

We often hear mention of Einstein's theory of relativity. A physicist of his stature lends credit to the popular view linked to his theory, namely that everything is relative and changeable. Remarkably, Einstein's theory rests on a fundamental presupposition which is the opposite of all relativism. Einstein had to start with the idea of an order which is uniform and constant – which means that everything which he has indicated to be relative is only relative in relation to this constant order.

1. In the year 1865, Claudius imported the term entropy. As mentioned the first law is the law of energy- retention; cf. Apolin, 1964:439-440.
2. The order of time is reversible in the kinematic aspect. The constant tempo of a pendulum demonstrates e.g. the kinematic aspect of a physical pendulum movement. Seen purely kinematically, only the sign in a movement comparison need be changed – and even then it produces a valid movement comparison. By changing the sign, we can, for example, see an expanding system change into a shrinking system – even if only the former is found in physical reality.

That this is the case is evident from his postulate that the speed of light is constant in a vacuum. Einstein worked from the presupposition that a particular light signal would have the same constant speed (c) in relation to all possible moving systems. It was not even necessary for his theory for such a signal to actually exist. The fact that later experimentation proved experimentally that the speed of light does indeed conform to Einstein's postulate, is as the physicist Stafleu puts it, relatively irrelevant!

The crux of Einstein's theory of relativity is therefore to be found in the nature of the *order of constancy* which it presupposes.¹ We are familiar with the numerical order of succession which founds every counting activity: one, another one, another one, and so on. Just as familiar is the spatial order of simultaneity. In distinction from the numerical order of sequence and the spatial order of simultaneity, we experience the order of constancy in the kinematic aspect of movement.

This means that Einstein's special theory of relativity of 1905 is a purely kinematic theory.² Einstein therefore did not primarily develop a theory of relativity, but rather one of constancy.

Galileo already discovered the particular nature of the kinematic order of time, as it was revealed in his law of inertia. In terms of this law a body in movement would continue its movement without stopping unless something else (a force or friction) influences it. That means that our insight into the nature of movement does not depend on a causal power. The term "cause" belongs to the physical aspect of our experience where we come across the effects of energy-operation. It cannot be sufficiently emphasized that we can never talk of a cause of movement, but rather only of a cause of a *change* in movement.

The unique nature of constancy (that is, the irreducibility of the kinematic aspect) is the foundation of all references to dynamics or change. Without a constant basis all talk of change is senseless. For this reason physics cannot link any meaningful content to a discontinuous change of movement – change of movement (acceleration and deceleration) is always continuous, since a discontinuous change would require a physically impossible infinite

1. Spielberg and Bryon correctly emphasize that it is about "invariance" – i.e. constancy – although they unfortunately thereby confuse the terms absolute and unchanging: "Indeed, Einstein originally developed his theory in order to find those things that are invariant (absolute and unchanging) rather than the relative. He was concerned with things that are universal and the same from all points of view" (1987:6). The term unchanging is simply the denial (negation) of the change – a physical term. The term absolute cannot really be applied to anything in creation, that is, not if one wants to avoid the idolization of created reality.
2. The irreducible nature of the kinematic time order is imported with the help of a subject which moves at a constant speed.

force.¹ Consequently, we can only establish change on the basis of something continuous.

12.4.2 An alternative formulation of the first main law of thermo-dynamics

This foundational position of the aspect of movement enables us to philosophically find a formulation of the first main law of thermo-dynamics which is true to reality.

The physical aspect must not be only distinguished from its foundational kinematic aspect, since there is also an indissoluble coherence between these two aspects. For this reason we shall find in the physical aspect a structural moment which reminds us of the foundational kinematic aspect. Constancy appears in the physical aspect as a structural reminder of the meaning of notion. In philosophical terms say that we find an analogy of the kinematic aspect on the law side of the physical aspect.

A formulation of the first main law which intends to be true to reality would therefore have to refer to *energy constancy*. Strictly speaking the use of the term "retention" is inadequate, since the activity of retention itself requires an input of energy – as in the case of thermo-dynamic "open systems" (or "steady states"). The law of *energy constancy* illustrates not only the distinct uniqueness of the kinematic and physical aspects, but, taking into account the distinction between law side and factual side, also the indissoluble coherence between them: without the foundational position of the kinematic aspect in the order of the various cosmic aspects we would have no grounds on which to discern an analogy of the aspect of movement in the physical aspect, that is, the analogy of energy constancy.

12.4.3 The theory of relativity and relativism

In modern times there is virtually no science (including theology) not beset with attempts at historical relativism. Historicism, after all, claims that everything changes all the time, that nothing remains the same – moral standards, religious convictions, legal opinions, economic practices – all things continue changing.

The pitfall in this argument is already evident in the fact that every indication of change is inevitably accompanied with such kinematic constancy terms such as "continually", "still", "always", "incessantly", etc.

This implies that we may not identify constancy with something static, but that we should far rather evaluate it positively as the foundation of all dynamics! At the same time, however, we should take leave of the one-sided and excessive concern with dynamics which is set against all forms of con-

1. Janich stresses a "strict distinction between phoronomic (hereafter named kinematic) and dynamic statements" (1975:68).

stancy.¹ Such an approach only leads to an unjustified dialectical tension: that which is the condition and prerequisite of dynamic change – that is, something constant – is seen as its opposite pole and enemy.

The remarkable coherence between the terms constancy and dynamics not only enlightens us regarding the natural scientific basis for the use of these terms, it also emphasizes the insight that the way in which we talk about everyday occurrences can never escape the perspective of particular aspects.

The particular character of the different aspects of reality is strikingly evident in a sort of question with which we are intimately familiar as of childhood:

12.5 What is ... ?

From young every human being asks "what is ..." questions. "Daddy, what is that?", "Mummy, what is that?", and so on. Later on these questions deepen. Then it is no longer directed at some or other new or strange object seen, but concerns more abstract matters, such as: "Dad, what is courtesy/beauty/justice/thrift?"; or: "Mum, what is love?"; or: "Sir, what is life/number/...?". As natural as these questions may sound, just as misleading they may be!

Saturated in an age-old tradition in which the human intellect and ability to conceptually encompass reality has been overestimated, these questions are evidence of a desire to understand things conceptually which by their very nature cannot be understood conceptually. Most successful definitions of this kind of matter are little more than rerouted questions. Prominent biological schools of thought in our day answer the question "what is life?" with: "Life is nothing else than a highly complex interaction of atoms, molecules, and macromolecules". This supposed conceptualization appears to say much, but still misses its aim: "life" disappears from the horizon and all that remains are "dead" material things like atoms, molecules, and macromolecules – and even a neo-Darwinist like Simpson acknowledges that molecules don't "live".²

Nothing alive exists apart or independently from constitutive physical substances. Without these substances there would be no life. This is not, however, sufficient grounds for defining "life" in simply physical terms. Things which live do not cohere only with the physical aspect of reality, since there would be just as little "life" in the absence of the spatial aspect. Think of the important role of biological environmental sciences today, or of terms like habitat (bio-environment) which unmistakably indicates the coherence between the biotic and spatial aspects of reality.

1. Where a few a decades back one would still refer with the highest regard to a resolute or principled person, today it is fashionable to speak of a *dynamic* person.

2. He goes as far as to say that the term "molecular biology" is internally contradictory (1969:7).

Even the numerical aspect contributes to this coherence, since the multiple members of a living thing needs to be bound together into a meaningful unity if its activities were not to disintegrate, causing death.

Such "what is" questions run into cul-de-sacs all the time. A Dutch legal scholar attempted to define the law as an objective, trans-egotistic harmonization of interests – missing the unique nature of the juridical aspect of our experience. Neither "objective" (in the sense of common or unbiased) nor "interests" say anything specifically juridical. "Trans-egotistic" appeals to the ethical side of our existence (moral relations of love and trust), and "harmonization" refers to the aesthetic aspect of reality. Dooyeweerd comments rightly on this definition in his legal encyclopedia: it may as well be seen as a measure for the distribution of alms among the poor.

Such definitions do explain why whatever is original and unique is inaccessible to the very activity of definition: far rather it forms the presuppositional foundation of definitions. Contradictory to the expectations of Western rationalism, people can only understand and define reality in terms which are not themselves open to conceptual encompassment or definition.

The irony of all apostasy is evident yet again: the opposite of the intended is achieved. Rather than gaining conceptual insight into something, the "what is ...?" question leads to a denial of the unique character of the particular matter or aspect. This demonstrates clearly that human reason is not self-sufficient – even the simplest process of conceptual formation depends on terms which cannot be conceptually understood, and themselves make conceptual analysis possible. Western man has little resistance against intellectual hubris, and finds it difficult to deal with the realization that human conceptualization depends on the grace of an original creational diversity which also prescribes the contours of human thought.

12.5.1 The impasse of historicism

We have already mentioned that historicism attempts to sacrifice all of reality to historical change. Everything – legal concepts, moral standards, convictions of faith, and so forth – is simply subject to the ever-flowing stream of emergence, acme and decline. The first question to be directed at historicism is whether any grounds remain for legal history, religious history, or economic history?

Whoever ponders on this question soon realizes that we can only meaningfully talk of legal history since there exists both an historical and a juridical aspect within the diversity of creation. Since law isn't history, it can have a history. If everything was history, as the historicist claims, then nothing remains which could have a history. This is the irony of historicism: that which is exalted to the one and all loses all meaning, since, if everything is history, nothing remains which can have a history, and we lose history itself!

This example also indicates that the meaning of history can only be understood in coherence with everything which isn't history. Every aspect is in an indissoluble coherence of meaning with all the other aspects. For this reason the historical aspect can also only reveal its meaning in coherence with all the non-historical aspects of reality. Without an inner interwoven coherence with the legal aspect we cannot gain insight into something like legal history. This is true for every aspect.

"Life", for instance, isn't something abstract which exists on its own, separate from all the other aspects of reality, since every living thing only exists meaningfully since its biotic aspect coheres with the other aspects of reality. For this reason the famous physicist Schrödinger could already write a book in the 1940s about the physical aspect of the cell. Recent decades have seen the rise of a number of biological subdisciplines exploring the coherence of the biotic and spatial aspects of reality – the ecological sciences.

The meaningful question we should ask in the place of the "what is ...?" question is "What is the meaning of ... justice? love? life? number? history? stewardship? trust?" Then we shall learn why love is considerate (retrospective coherence with the sensitive-psychic) and sacrificial (coherence with the economic), why justice establishes a balance between conflicting interests (retroicipatory coherence with the physical), why justice depends on the attitude of the actor and not only the consequences of the deed (anticipatory coherence with the ethical aspect), why historical understanding must have an eye for cultural treasures (which has grown as part of the traditional heritage) as well as for the demands of a new situation (reformation, sifting and selecting vibrant traditions for the future from among the dead wood) (retroicipatory coherence with the biotic aspect).

12.5.2 The meaning of faith

In the reformational tradition (cf. the Heidelberg Catechism) it is taught that faith is a certain trust and a certain knowledge. The latter indication is that of Calvin. Is this a definition?

Some exegeticists are of the opinion that we find a "definition" in one place in the Bible, namely Hebrews 11, where the nature of faith is supposedly "defined". In reality it only states simply and strikingly by means of repetition that faith has to do with something about which we are convinced with confidence:

"Now faith is being sure of what we hope for and certain of what we do not see."

As with every other aspect of creation we are confronted with the limits of concept and definition – every attempt to further define this unique meaning of faith by means of merely repetitive confirmation runs the risk of being reductionist. Then we only say what faith is in terms of what it isn't.

The unique nature of faith becomes apparent in coherence with the other facets of our existence – therein lies the *meaning* of faith. What value has faith without works (cf. James 2:14)?

Faith implies and demands fidelity in faith and sacrifices of faith, together with knowledge of faith – correct faith distinctions (as emphasized by Calvin), faith sensitivity – not the same as faith directed by feeling, it requires a dynamism of faith, perseverance in faith and integration of faith, it brings about a harmonious and balanced faith, requires correct interpretation of signs of faith (e.g. that the bread and wine in communion does not really turn into the flesh and blood of Christ), it brings about community in faith which leads to joint worship, praise and exhortation in the meeting, it requires contemporary forms and expressions in response to the new problems and tasks arising out of changing historical circumstances. At the deepest level faith unifies our lives and directs them at the loving service of God and the neighbour with our whole heart.

In the previous paragraph we made a subtle transition. Initially we emphasized the meaning of faith which coheres with other facets of creation, while in conclusion we closed with an appeal on the root of our faith which requires and implies total obedience. Does this mean that the word *faith* is used in different senses in the Bible?

Indeed, since while it is used to indicate the total and all-encompassing heart relationship of the reborn Christian with God – for which reason the term Christian refers to their entire existence – it is also used to indicate one of the rays in the colour spectrum of our lives. The same is true for the word *love*.

In the previous chapter we saw that the heart, as the religious centre of human existence, is at the root of all the expressions of life. For this reason Christ requires a reborn heart – the wellspring of life. When faith or love is used in this radical sense, it cannot refer to merely one aspect of our experience of reality – then it refers to the fulness of our covenant relationship with God in Christ. This is evident when we speak of the central commandment of love or of faith as a heart commitment to God.

This radical usages are not in conflict with those texts where the words love and faith are used in a differentiated sense next to each other, since these references are not to the root, but to the particular divergent expressions of life.

Compare for instance Gal. 5:22 where love is used next to and with joy, faithfulness and self-control as a fruit of the Spirit, or I Tim 6:11 where the man of God is asked to pursue righteousness, faith and love, among others.

The heart is the root of faith, the reborn heart determines the direction (towards God) of our faith, the creational order founds the normative structure of faith – thus no unbeliever can escape it since even atheism is a form

of (apostate) faith – and the Bible (as the genuine and trustworthy Word of God) determines the *content* of our Christian faith.

The structure of God's creation is so astounding that everything coheres with everything else. Nothing is self-sufficient. The diversity of meaning in creation, which is placed in an indissoluble coherence of meaning, exists from, through and to God and is created in, through and for Christ – the fullness of meaning of creation.

12.6 Provisional reflection

Up to now we have explored various characteristics of modal aspects in terms of a number of examples and problems. With reference to early Greek philosophical views of reality – particularly the view of Pythagoras that everything is number – we looked at the unique nature of aspects, particularly that of number and space. The problem of *constancy* and *dynamics* enabled us to pay attention to the fantasy of *perpetual motion*, the foundational coherence between the kinematic and physical aspects, the general character of Einstein's theory of relativity and a formulation of the first main law of thermo-dynamics which is true to reality (i.e. *energy constancy*). The latter example demonstrates the value of insight into modal analogies since *energy constancy* expresses a *kinematic analogy* in the structure of the physical aspect. Subsequently we discussed the indefinable nature of the cores of meaning of the different aspects with reference to the common "what is?" questions. The meaning of the biotic, juridical and faith aspects were discussed in this regard from the perspective that everything in created reality can only be understood when their coherence with other creational phenomena is taken into account. The irony of every absolutization of something created is exactly that it robs the absolutized of meaning – as in the case of historicism which tries to historify everything but runs into the impasse that nothing remains which can have a history.

If we have a perspective which attempts to escape in principle the relativism inherent to historicism it implies that we must pay attention to *principles*. The question, however, is:

12.7 What are principles?

From all sides we hear every day about "principles". Political parties like to declare their continued commitment to "basic principles", churches refer to christian and scriptural principles, young people are raised to guard sensitively against all that conflicts with the "principles" according to which they were raised, in arguments it is often concluded that an unbridgeable "principlial difference" exists.

When we dare to ask a critical question: what exactly is a principle supposed to be? we are mostly sent off without an answer. Can someone's principles change? Or are they unchangeable and static?

Are principles universally applicable? In other words, is it part of the nature of a principle that it is applicable at all times and in all places? If so, does any space remain for human freedom to adapt to new situations? Generally applicable principles have an obvious concrete significance – what then of the equally familiar thought that principles must be concretized (applied)? If alternative applications of a principle is consider acceptable, can such applications change along with historical circumstances?

These are surely enough questions to lead anyone reflecting on the nature of principles into a virtually impassible labyrinth!

12.7.1 Principle and application

We are often informed that something like the death sentence is a principle. In reality, however, the death sentence refers to the underlying disclosed Western principle of criminal law which requires that the punishment should fit the crime (taking into account guilt, both in terms of intent and negligence). This principle of punishment relevant to guilt is a deepened legal-ethical principle fundamentally different from the strict responsibility for outcomes evident in undisclosed legal systems (e.g. the talio-principle in the Old Testament, known as the "eye for an eye" or "tooth for a tooth"-principle). In the talio-principle the ethical aspect of moral love had not yet deepened the meaning of the juridical aspect of reality, since the attitude of the actor was neglected, and only the consequences of the act were taken into account. In an ethically deepened, or disclosed,¹ legal system the death penalty can only be considered as an application (positive expression) of the underlying principle of punishment according to guilt. Other applications of the same principle could be e.g. life imprisonment or an even shorter term, depending on the degree of mitigating circumstances which may be present.

God's creational will for man approaches the latter in the form of constant points of departure (Afr. "begin-sels"), and man's calling is to give concrete effect to these points of departure as cultural shaper, according to the unique historical circumstances of a particular cultural period. Without foundational constant principles it would be impossible to speak of adaption, dynamics, concretization, application or positivization. Only in the light of the Scriptures does the Christian realize that God set his creation-wide law for being human (his Law-Word) and that the central unity and wholeness of this law is given in the law which demands that we must love God and our neighbour with all our heart.

12.7.2 Are principles valid for all time?

As constant points of departure all true principles have an appeal on all times and places – they are universal in the sense that no human being anywhere,

1. Notice that this disclosure regards the "opening up" of anticipatory analogies in a particular aspect. Guilt here refers to the anticipation of the ethical aspect from the juridical aspect.

ever, can escape their claims. Contemporary "situation-ethics" attempts to make the uniqueness of every situation determinative, elevating the situation itself to a norm. This is nothing but complete normlessness. This universality (that is, the point of departure for behaviour in all situations), however, does not mean that any principle is valid in itself. In order to become valid, to be made effective, human intervention and activity is essential – man alone is empowered to give concrete expression to principles in a particular unique historical situation.

The mere distinction between principle and application is linked by Hart with those attitudes towards life referred to as legalistic, conservative or traditionalistic. According to him extreme and excessive traditionalism or conservatism is the result of an inability to understand the meaning of this distinction. He explains his claim in terms of the various expressions of respect in social habits of greeting. While the fundamental principle of social respect remains, the concrete expression given to it in greeting changes:

"In certain cultures men may express respect by taking off their hat to each other. Let's say that after some time people no longer actually raised the hat all the way, but just lifted it slightly. Still later we see people just touching the hat. In the end all that remains is raising the hand. We can distinguish between a principle (i.e. expressing respect) and actual patterns of behaviour (i.e. various actions with the arm relating to headgear). ... In spite of all that varies, something 'in principle' remains invariant through all this historical development" (1984:59). Three pages further he explicitly rejects the extremes of conservatism and chaos: "Either only lifting one's hat all the way counts as greeting, or anything I choose is greeting. The recognition of 'greeting in principle' makes it possible to avoid both conservatism and chaos" (1984:62).

There exists an old tradition in the history of Western science in which it has been wrongly claimed that principles are effective in and of themselves. This took shape especially in the writings of 17th and 18th century legal scholars – the natural law school – who were of the opinion that there is an eternal and unchangeable legal order containing positively valid and applicable legal norms for all situations at all times.¹ At the beginning of the previous century the historicist school of Von Savigny opposed this position. This reaction rejected entirely the constant nature of principles as universal points of departure for concrete historical action. This rejection emerges out of an absolute negation of our Biblical faith in an underlying creational order.

Several contemporary theological currents have, as a result of this historicist emasculatation of the Biblical creational faith only the future in view (hence their eschatological emphasis), without any sensitivity for the creational

1. Hugo de Groot, for example, saw the demand that contracts must be kept – "pacta sunt servanda" – as such an eternal and positively valid principle of natural law.

points of departure out of which our obedience should be directed towards the future.¹

While the appeal of the central commandment of love is without doubt also present in the commandments of the Old Testament, as confirmed by the fact that Jesus, in his reply to the Pharisees, uses the formulation of Deut.6:5 and Lev.19:18, it is equally true that God's covenant will for Israel was presented to Israel in the form of numerous concrete regulations. These are a diversity of positive principles – which are as such not universally applicable. Consider the following example.

12.7.3 *The historical distance between positive expressions of principles*

What is the meaning of the covenant word: you shall not commit adultery? Suppose we were to put this question one Sunday morning to a number of churchgoers at the church down the road. Most likely they would all reply: I understand it to mean that a man must be faithful to his wife and vice versa. They may therefore not have any love relations in the sense of marriage with other men or women, since this would be adultery. In response we would be able to ask: is this the same as your minister understands under it, and what members of the congregation ought to understand when they listen to the reading of the Ten Commandments in church? To this also, the answer is most likely to be: yes. Now, however, comes the critical question: is this what Old Testament Israelites understood the commandment to mean?

Not at all! In the Old Testament situation a man was not only allowed to have more than one wife and more than one concubine, he was even allowed to have sexual relations with an unmarried women as long as he was willing to take her as wife or concubine after the act! Without doubt the positive content of this covenant word was different from the way in which we give form to the ethical relationship between husband and wife today. On what grounds, with what criteria, can we judge our different and adapted approach? The Old Testament positive form cannot be used, except if we were to absurdly attempt to casuistically elevate a particular positive form to a universal norm for all time. Such an attempt would lead to the following problematic situation. If what we understand under this commandment today is the meaning and content of the Old Testament covenant word, then virtually any situation would be justifiable in its terms. How would we counteract

1. As Olthuis observes, "The current eschatological orientation in theology which tends to seek even the beginning in the end will need revision. The Bible begins with Genesis and Genesis begins with creation. The Scriptures see the Gospel as the link connecting creation and consummation. And this link between past and future is revealed as the Word which connects the end with the beginning, the consummation with the creation. 'I am the Alpha and the Omega, the first and the last, the beginning and the end' (Rev. 22:12). A proper vision of the consummation requires a proper appreciation of the beginning. Without this understanding, the fulfillment lacks substantial content and tends to evaporate into pious words about hope. A non-robust view of creation emasculates the gospel, for it is the creation which is brought to fulfillment in Jesus Christ even as it began in him" (1988: point 2).

claims that the intention of the covenant word quite justifies one man to have three wives, or one wife three husbands? In this way any arbitrary situation would be justifiable by claiming that contemporary practice is according to the commandment. This would lead to complete normlessness.

What happened when Jesus was approached by the Pharisees with regard to divorce? Christ held that what God has put together, no man may put asunder, to which the Pharisees replied by asking why Moses prescribed the use of a letter of divorce? Jesus replied, "Moses permitted you to divorce your wives because your hearts were hard. But it was not this way from the beginning" (Matt. 19:8). Jesus appeals to the beginning – in the beginning God created the heavens and the earth (Gen.1:1). This is an appeal to the original creation: in principle (Afr. "begin-sel") no-one may divorce, even as man's sinful heart and its antinormative acts (cf. Matt. 15:19) requires it factually.

12.7.4 Central appeal and contemporary expressions

Only with appeal to the creational principle of marriage do we gain a measure which liberates us from the arbitrariness with which virtually any situation could be seen as conforming to the Old Testamental commandment.

The central unity of God's law and the religious fullness of God's claim on whole-hearted loving service is expressed differentially in the diversity of creational structures – linked to the historical level of development (differentiation) and disclosure in effect in a particular civilization (cf. the example of the death penalty discussed above). This explains again why we cannot biblicistically consider a particular positive form of the differentially expressed central commandment of love as valid for all time.

In the ten covenant words of God the central commandment of love is given contemporary expression. The commandment: you may not commit murder, has an Old Testamental positive expression which must be understood in view of the relative undisclosed and undifferentiated legal system of the time. Disclosed, deepened juridical-moral principles (guilt, fairness, and so forth) were not prominent in this system.

The sabbath commandment is perhaps the most obvious in this regard, since it is completely interwoven with the Old Testamental tabernacle and temple orders of worship, with the particular position of the high priest, all of which is part of the whole people of Israel, which is supposed to be holy as God is holy (cf. Lev. 19:2). The holy cultic days did not exist to make the people holy, since Israel was supposed to be a royal priesthood in all her covenantally obedient activities. Thus the people had to regularly recall cultically (including a variety of festivals) God's mighty deeds of care and salvation. Once Christ, priest-king in terms of the order of Melchizedek, sacrificed himself (differently from the high priests who always sacrificed both on their own behalf and on behalf of the people) (Hebr. 7:27), a change in priesthood

required a change of law (Hebr. 7:12). This is why we celebrate Sunday, the first day of the week, since the new covenant was no longer bound to the celebration of the sabbath (the seventh day of the week). In Christ there is a sabbath rest for the chosen people of God (Hebr. 4:9), a restoration of the paradise-order of peace and obedience in all activities in life in God's kingdom come, and coming.

In the New Testament we find a continuous central appeal to the commandment of love, even as the diverse concrete situations and commandments of which we read provide us with positive expressions.

From this perspective the covenant history of the Old and New Israel can be understood within the context of the all-sided dynamic and disclosure of meaning of God's creational order. Conversely we cannot deduce the differentiated principles for our richly shaded contemporary life from the covenant words of the Old and New Testamental positive expressions, which were true to their particular times. The common point of reference remains God's universal order of creation within which God gave his Word revelation and speaks to us in a central religious sense.

Of course, the religious heart appeal of the Bible is normative for all Christian expressions of life, and not only the narrower life of faith. Only in the Bible to we come into contact with the radical (cutting to the root) religious content of the central commandment of love, while the factual content of our Christian faith is only brought to us by the Bible, in Christ. It would be clearer, however, if we were to say that the Bible *determines* the content of our Christian faith, rather than that it is the *norm* for our faith. The Bible itself, as we have seen, refers us to the principles of divine creation (cf. Christ's mentioned reply to the Pharisees).

In this regard it cannot be emphasized enough that no insight into the existence of creational principles, nor any actual theoretical Analysis or discovery of these principles can ever take place independently of the Bible, since only the Bible reveals to us that God created all things, which subjects man to the normative law which he set over us. Only when the radical and total authority of the Bible is recognized, can we attempt theoretically and fallibly to uncover creational principles.

The arbitrary and indiscriminate way in which certain positive expressions in the Bible are biblicistically elevated to universally applicable "principles" is well-known to most of us. Without realizing the inconsistencies of such an approach, an appeal could for instance be made to Deut. 22:5 that a woman may not wear male clothing and a man not women's clothing, while all other expressions in the same context are ignored.¹ At the same time the question isn't asked whether the prohibition could have had something to do with cer-

1. You may not sow two types of seed in your vineyard (verse 9) and you may not wear mixed materials – wool and linen – at the same time (verse 11). Where would this leave modern women?

tain heathen cultic practices from which Israel, as a holy nation, had to distance herself.

This sort of abuse of particular positive expressions follow a particular "exegetical procedure": when it appears in any way as if a particular positive expression in the Scriptures has any similarity to any contemporary positive expression (e.g. monogamous marriage), it is immediately concluded that we are dealing with a "scriptural principle".¹

All positive expressions which may differ obviously and considerably from our contemporary situation, is mostly simply ignored, without closer justification, even while we are still supposedly bound by positive expressions already invalidated from a New Testamental perspective (such as the mentioned difference between keeping the sabbath and celebrating the Sunday).

Without extensive discussion we conclude this section on the nature of principles with a brief typification:

a principle is a universally constant point of departure which only becomes effective (is given positive expression) through the actions of a competent person or institution which has a responsible free will which enables them to reach a normative or antinormative application of the particular principle in their unique historical circumstances.²

12.8 Problems with the "new mathematics": Is a line a set of points? (the spatial subject-object relation)

While the idea is ancient, modern Cantorian set theory again came up with the conviction that a spatial subject such as a particular line must be seen simply as an infinite (technically, a non-denumerable infinite) set of points.

If the points which constitute the one dimensional continuity of the line were themselves to possess any extension whatsoever, it would have the absurd implication that the continuity of every point is again constituted of smaller points than the first type, but which would necessarily also have some extension. This argument could be continued *ad infinitum*, implying that we would have to talk of ever-diminishing points. In reality such diminishing points do not at all refer to real points, since they are supposed to indicate the nature of

1. Even the way in which a modern marriage comes into existence or to an end is absent from the New Testament, since it is dependent in our times on the differentiated civil and non-civil private law (to which we shall return at a later stage), which had not as yet crystalized at the time of the New Testament.

2. Notice that this formulation implicitly uses the gateway of a number of aspects – which signifies that the term principle is a *complex or compound* fundamental scientific concept – in distinction from the elementary fundamental concepts in science which appeal to a single particular analogy in the structure of an aspect of reality. Cf. e.g. Strauss, 1988c. The nature of modal analogies, seen together with the distinction between law-/norm-side and factual side, enables us to trace down many principles philosophically. Every analogy on the law-side of a normative aspect provides us with a fundamental modal principle.

continuous extension, which as we have seen, is infinitely divisible. Such points build up space out of space.

Anything which has factual extension has a subject-function in the spatial aspect (such as a chair) or is a modal subject in space (such as a line, a surface, and so forth). A point in space, however, is always dependent on a spatial subject since it does not itself possess any extension. The length, surface or volume of a point is always zero – it has none of these. If the measure of one point is zero, then any number of points would still have a zero-measure. Even an (denumerable) infinite set of points would never constitute any positive distance, since distance presupposes an extended subject.¹

In the mathematical theory of measures a little trick is used in an attempt to overcome this limitation. Cantor had proved that the real numbers cannot be counted off one by one, that is, they are non-denumerable. Then it is no longer possible to define addition, since in order to add, a set must be denumerable: only then can one and another one and another one be added. In such a case it is said that the non-denumerable set of points between two points x and y have a measure larger than zero – in order that a line can be defined as a set of real points.

In this mathematical argument implicit use is made of a disclosed idea of infinitude. Our original awareness of number depends on a temporal order of one, another one, and so forth. This order of succession we can call the *successively infinite*. When we consider a sequence of numbers as if all the elements of the row are observed *at once* – as the points on a straight line are in view at the same time – we come across a deepened sense of infinitude, the *at once infinite*. Without the nature of spatial simultaneity this supposition of an *at once infinite* set has no foundation. The *at once infinite* is a numerical anticipation to the spatial aspect. It is an anticipatory analogy in number of space. Thanks to this analogy the arithmetical order of succession is directed in anticipation towards the spatial order of simultaneity.²

1. The following classical "definition" of a line is well-known: *A straight line is the shortest distance between two points.* A straight line is a factual spatial figure extended in one dimension. The measure of this extension, however, is indicated by the numerical analogy of distance (size). We can say in a particular instance that the length (i.e. the numerical analogy) of a line is so much. The so much of a line, however, is not the line. In other words, the extension of the line cannot be defined by the indication of its length. The length of a line presupposes the factual extension of the line – from which it remains distinct. For this reason Hilbert imported the term line as an undefined term in his famous axiomatic foundation of geometry (cf. 1899).

2. In Aristotle's discussion of Zeno's antinomies – i.e. that of Achilles and the tortoise – the distinction between these two types of infinity is indicated as the potential infinite and the actual infinite. Historically other terms have also been used, such as incompleting and completed infinity.

The *at once infinite* presupposes the irreducible, unique nature of the spatial aspect and cannot be used subsequently to reduce space to number (a distinct number of points) in terms of a non-denumerable set of real points.¹ This reductionist attempt is antinomial and implies the following contradiction: space can be reduced to number if and only if it cannot be reduced to number (i.e. if and only if the *at once infinite* is used, which presupposes the irreducibility of the spatial aspect)!

A point always functions in an objectively limiting way with regard to a spatial subject. If it is a one-dimensional subject, points serve as its beginning and end. If it is a two-dimensional figure (such as a square), points serve as the corners, and so forth. A line, which is a subject in one dimension, can also function in a limiting (objective) sense in higher dimensions – e.g. limiting the surface of a square, or acting as the edge of a cube. In similar fashion a surface can act as a limiting object in three dimensions, as when it delimits the volume of a cube. In general it can be stated that whatever is a spatial subject in n dimensions, is an object in $n+1$ dimensions. A point is a spatial object in one dimension (an objective numerical analogy on the factual side of the spatial aspect), and therefore a spatial subject in no dimension (zero dimensions). In terms of the principial difference between a spatial subject and object, it is impossible to deduce spatial extension in terms of spatial objects (points). Consequently it is unjustifiable to see a line as a set of points.

13. Conclusion

In this chapter we have given attention – with reference to a handful of problems and examples – to the various structural moments common to the general nature of a modal aspect. We indicated that every modal aspect has the following characteristics: a unique, undefinable and irreducible core of meaning; an indissoluble correlation between the law-/norm-side and the factual side; a reflection of the cosmic coherence of meaning with other aspects of reality in (retro- or anticipatory) analogies; a position in the irreversible cosmic order of time which appears in every aspect in the correlation between the order of time (law-side) and the duration of time (factual side); in all the post-arithmetical aspects there is a correlation between the factual subjectivity and factual objectivity (a subject-object relation).

In conclusion we provide a short summary of the various points raised which would be useful in the identification of distinct aspects.

- (1) In the historical course of Western philosophy there has always been recognition of the diversity in reality – an indirect indication of the distinct aspects.
- (2) In non-scientific (“naive”) experience we also find this diversity – as reflected in the common human analytical awareness of this diversity.

1. The “definition” of the line as a set of points is thus known in mathematical literature as an arithmeticistic approach.

- (3) The great variety of isms found in philosophy and the special sciences, which each absolutizes a different aspect of reality to be the all-encompassing theoretical foundation, also indirectly indicates the distinct aspects.
- (4) Reflection on the various kingdoms in nature (matter, plant and animal), as well as on the various human societal forms (such as the state, church, sports club, school, cultural society, theatre group, marriage, business or language association) directs us towards the various modalities (aspects) which provide access to the qualifying aspect of each. This helps with the distinction and identification of aspects.
- (5) The method of exposing antinomies helps us to avoid the identification of aspects with each other.
- (6) The development of independent special sciences, delimited in their area of study by a particular aspect of reality, indicates the variety of aspects of reality.
- (7) Another aid in the identification of a particular aspect is that which appeals to our immediate intuition (experiential insight) when reference is made to the meaning of any distinct aspect.
- (8) All the special sciences use typical entity concepts (such as: atom, molecule, plant, animal, table, painting, murder weapon, engagement ring, church building) as well as functional concepts unmistakably appealing to the modal aspects of reality (such as life, volume, control, agreement, exchange, threat, love, integration, sensitivity).
- (9) An indirect method of analysis, the indication of an analogy in the modal structure of an aspect, can lead to the identification of the original, non-analogical nature of a particular aspect. The fact that something like juridical agreement and disagreement – legitimate and illegitimate – exists, refers to the logical aspect in which agreement and disagreement first appears.
- (10) In the case of the normative aspects of reality a negative indication, or even the negation of a negative indication, can sometimes help to express our insight into the nature of a core of meaning (note, not to comprehend it, exactly since every core of meaning is conceptually undefinable!). The core of meaning of the economic aspect, for instance, can be indicated with the expression of “avoidance of excess”, i.e. to act in a non-excessive manner. The negation of this negative formulation indicates that it refers to the way of *having enough* (and how many large businesses, with their incredible striving for excessive profits know when they have enough?). Without obedience to the modal demand of having enough man simply ignores his responsibility for economic stewardship.

Chapter 4

Creational reality – kingdoms and life forms

14. From aspects to things

In Chapter 3 we looked at the aspects of concrete things. In this chapter we want to inverse the perspective and through the gateway of aspects, attempt to find more clarity about the nature of the different entities which we encounter in reality. We have already seen that the things, events and societal relationships which we experience, belong to the concrete, i.e. to the dimension of entity structures. The concrete existence of something like a chair – to take a school example – functions in its own way within each aspect of reality – whether as subject or object.

Such a chair possesses four legs (numerical: the interest of mathematical arithmetic); it is large or small (spatial aspect; mathematical geometry); is a wheelchair or not (movement aspect: kinetics); it is strong or weak (physical-chemical aspect); it usable in human life (although as biotic object because a chair has no life – biology studies reality from the biotic aspect); it is comfortable (sensitive-psychic aspect: psychology); it is invented (analytical aspect: logic); it is culturally formed (historical aspect: historical science would be interested in, for instance, the historical development of different chair styles); it has a name (a verbal sign – the sign aspect; general semiotics and linguistics); it is used in the interaction of people (social aspect: sociology); it has a price (economic aspect: economics); it is beautiful or ugly (aesthetic aspect: aesthetics); it belongs to someone who has a subjective right (possessive competence) to it (juridical aspect: Legal science); it is or isn't someone's favourite seat (ethical/love aspect: ethics); and it is reliable – everyone believes that the chair will carry them if they sit on it (faith aspect: viewpoint of theology as science).¹

The aspects of such a lounge chair form the constant universal context (spheres) within which it functions. Even so, the individuality of every entity possesses a structure that could never be explained by the variety of aspects within which it functions. Although a study of the nature of the aspects of reality must ignore the typical structure and individuality of entities

1. Such trust must not be confused with trusting faith in the religious sense – except of course if someone were to make an idol of the particular chair!

in reality, at the same time, we must recognize that the individuality of things is still recognizably expressed within the universal structure of the various aspects. The way in which a solid, a liquid and a gas behave in the physical aspect, differs in such a way that we can speak of the typical structure of each. In order to speak about entities, we cannot but use the gateway which the aspects of reality offer. The two parts of the joining word "total structure" both appeal, for example, to the original meaning of the spatial aspect. Furthermore the concrete functioning of an entity is particularly coloured or specified by two prominent functions: these are known as the *foundational function* and the *qualifying/directive function*. To explain the meaning of this distinction, we begin with examples from the qualifying function of an entity structure.

When we speak, for instance, of the typical way in which a state and a business function within the economic aspect in reality, we actually mean that the uniqueness of the state is marked or qualified by its juridical function – that is why we speak of the state as a juridical consociational bond. In other words: only states belong to the (entity-) type state. The juridical qualifying function of all entities which belong to this type qualifies the way in which the state functions in all the other aspects of reality. Think only of the economic aspect: to maintain the public legal order, the state budgets for the essential expenditures which must be covered – for example by means of the collection of taxes.¹ In other words, the qualifying juridical function of the state colours (i.e. specifies) the way in which the state as organized life form, functions in other aspects of reality.

With reference to common daily objects of use, one can easily see how determinative this qualifying function is for the nature of an entity. To get onto the track of the internal qualifying function of such a household article (cultural object), we need only ask: it was made to ...? e.g.: tools are made to ...? to make something else – its objective cultural-historical directive function; money is made to ...? to buy with – its economic qualifying function; a book is made to ...? to read – its qualifying sign function; a painting is made to ...? to be aesthetically appreciated – its objective aesthetic qualification; etc.

A tool can also be used to beat someone to death. Is it used according to its internal qualifying function? Certainly not, just as little as a painting is used according to its internal qualifying function when it is bought and sold.

14.0.1 *The disclosure of the object functions*

At this point we meet a further meaning of disclosure.

- (i) Any thing from nature which was not made by man, can be objectified by man in some or other normative aspect – then a particular normative object function of that thing is disclosed (opened). These object func-

1. Other sources of income also exist, i.a. since modern governments sometimes establish non-state enterprises.

tions are latently present in all natural things – they are only made patent by objectivation, active disclosure. Man can, for instance, appreciate a sunset aesthetically, as something beautiful – then he is making patent the aesthetic object function of the natural phenomenon. When he identifies and distinguishes the sunset from the clouds, he unlocks the analytical object function of the same natural phenomenon.

- (ii) Because cultural objects are made by man to ... it means that every cultural object makes a kind of double disclosure possible:
 - (a) according to its internal qualifying function – then it is used true to its nature (e.g. a book is read) and
 - (b) correlating to another objective function – then it is used without the internal qualifying function being patented (disclosed) (e.g. when a book is used as an ornament or status symbol in a lounge).

The directive function is not the only function which is determining for the individuality and typicality of an entity (note: determinative for, not deductive from). Think of the nature of technical tools. We said in Chapter 2 that tools were made by man in order to make something else. They were made – i.e. it originated through the technical controlling formative labour of man: the cultural-historical foundational function of tools. At the same time they were made in order to make something else – their historical qualifying function. Tools represent a specific kind of entity, because their entity structure possesses an historical foundational and qualifying function! H. van Riessen, already in his thesis: *FILOSOFIE EN TECHNIEK*, developed this characterization of tools (technical objects) (cf. 1948:509). In reality, all man-made objects of use possess a technical foundational function.¹

15. Natural things

15.1. Material things

Although the history of philosophy and natural sciences have tried for long to find a qualifying qualification for material things in one of the first three aspects of reality, it was only at the beginning of the 20th century that general natural scientific consensus was reached concerning the energetic qualification of material things (elemental particles, atoms, molecules, macromolecules, macrosystems). The Pythagoreans wanted to reduce everything to number. The discovery of irrational numerical relationships led in the school of Parmenides (to which Zeno with his arguments against movement and multiplicity also belonged) to the geometrization of Greek mathematics and to the conviction that all physical things are spatially characterized. This spatial orientation lasted for more than two thousand years! The father of modern philosophy, Descartes (1596-1650), divided reality into two spheres of an extended and thinking "substance" (*res extensa* and *res cogitans*): "the nature of body consists not in weight, hardness, colour, and the like, but in

1. With regard to the relations between man as subject and a variety of objects of use we sometimes use the term technical as an equivalent of cultural-historical.

extension alone" (Principles, Part II, IV). Even in the great German philosopher of the 18th century, Kant, this view exerts its influence unchanged. He says that when we remove everything which the mind conceives of in the representation of the body (like substance, strength, divisibility, etc.) as well as everything which belongs to our awareness of the body (like impenetrability, hardness, colour, etc.), then all that remains is extension and form (*Ausdehnung und Gestalt*) (1787, B:35). In connection with the nature of constancy and change, we saw in Chapter 3 that the main tendency in classical physics (since Newton) was mechanistic – in other words, it was of the opinion that all physical processes can be reduced to (mechanical) movement. The last great representative of this mechanistic approach was probably Heinrich Hertz – the German physicist who did experimental work about electromagnetic waves more than a hundred years ago.¹

It is clear that every attempt to find an arithmetic, spatial or kinematic qualification for physical entities necessarily runs into theoretical antinomies. Besides the given arithmetic function which an atom has, it also possesses a clear spatial function: it is characterized by a particular spatial configuration – an atom nucleus with peripheral electron systems. According to wave mechanics, we find quantified wave movements around the atom – the kinematic function of the atom. Already in 1911, in Rutherford's atom theory, the hypothesis was posed that atoms consist of a (electrically positive) nucleus and negatively charged particles which moved around it (a view which was inspired by the nature of a planetary system). In the following year (1912), Niels Bohr set up a new theory which contained two important new ideas: (i) the electrons move only in a limited number of discrete orbits around the nucleus and (ii) when an electron moves from an orbit with a high energy content to one with a low energy content, electromagnetic radiation occurs. In 1925, Pauli formulated his exclusion principle (Pauli-exclusion).² According to the division of charges of electrons, corresponding electronshells exist, and in each peel there is room for a "maximum" number of electrons. This maximum number is given by the simple formula: $2n^2$. In the first peel (known as the K-peel) there is room for 2 electrons; in the following L-peel, with a quantum number n , (where there is room for $2n^2$ electrons). Sub-orbits are identified so that each sub-orbit with a quantum number l has room for $2(2l+1)$ electrons.

It is already obvious from these facts that the distinct amount of elemental particles in the internal atom structure are joined into a typical spatial order of electronic orbits which figure in the atom as individual physical-chemical

1. This work not only established him as the founder of wireless telegraphy and the radio, but also immortalized his name in the unit of frequency (Hertz) named after him.
2. It applies to fermions, i.e. elementary particles with a semi-numerous spin ($1/2$, $3/2$, $5/2$, etc.) for which the statistical laws of Fermi-Dirac are formulated.

micro-totally. The special spatial configuration which is manifest in the internal build of an atom, reflects the typical foundational function of atoms.¹

In connection with the problem of the structural interweaving of entities, Dooyeweerd developed a theoretical approach which will give account for the retention of the internal nature of entities which are interwoven (cf. 1969-III:627 ff., 694 ff.). When the internal nature of an interwoven entity is retained, Dooyeweerd speaks of *enkapsis*. When the structure of one kind of entity is foundational for the structure of another kind of entity, it is referred to as a one-sided enkaptic foundational relationship.

In Chapter 3 we noted that, with regard to the infinite divisibility of a spatial whole, there are important limits in the unqualified use of the spatial whole-part relation. The nature of enkaptically interwoven forms illuminate further limits in this regard. The interweaving which exists, for example, between the Sodium and Chlorine atoms which are found in table salt, is in no way given account for with the help of a whole-part perspective. Every division of table salt must – that is if we still want to be working with real parts of salt – still possess the same chemical structure (NaCl). The critical question is whether Sodium and Chlorine have each individually got a salt structure? Are Sodium and Chlorine true parts of salt? The answer is obvious: No, because neither one has an NaCl-structure on its own!

This simple example already uproots the unqualified way in which, especially in modern system theory, literally everything in reality is spoken of in terms of a whole and parts (systems and subsystems) (cf. my criticism of this in Strauss, 1985).

Within the kingdom of physically qualified entities, we encounter different geno-types.

Atoms are, for instance, geno-types within the radical type (kingdom) of material things. Within different bonds the same atom displays a number of variability types. When an atom engages in chemical bonding, we encounter a characteristic of enkaptic totality: (i) besides an entity's internal structural working sphere, an (ii) external enkaptic working sphere (in which the enkaptically-bound structure is serviceable to the enkaptically encompassing totality).

A water molecule can, as a structural whole, exist e.g. on the foundation of the geno-type of the bond of the oxygen and hydrogen molecules. Without atoms, there can be no mention of a molecule – thus the indication: unilaterally founded. Does this imply that the atoms totally become part of the chemical bond which exists in the molecule? Not at all, because the bond applies only to the bonding electrons and not to the whole atom. Besides, the atom nucleus is not just a specific characteristic of the atom, but precise-

1. Dooyeweerd initially thought in 1935-1936 that natural things do not have a typical foundational function. In 1950 he relinquished this position (Cf. 1950:75 note 8).

ly that nuclear part of an atom which determines its physical-chemical genotype (compare the atomic number = the number of protons of the nucleus), as well as the atom's place in the periodic table.

The fact that the atom nucleus remains structurally unchanged in the chemical bonding, guarantees the internal sphere of action of the atom. Because the electrons cannot be disengaged from the atom nucleus, the atoms function as a whole in the water molecule. Note that we cannot say that the atoms function in a chemical bond. The bonding does not encompass the atomic nuclei. Nonetheless the atoms (with their nuclei, electron shells and bonding electrons) are present as a whole in the water molecule which encompasses them enkaptically. The indication: *enkaptically encompassed*, shows that the atoms, retaining their internal nature, is externally serviceable to the water molecule as a whole. The enkaptic interweaving of the atoms in the molecule does not make them intrinsically part of the molecule, since this would abrogate the internal sphere of action of the atoms.

The external enkaptic function of the oxygen and hydrogen atoms in the water molecule indicate the functioning of the atoms in the molecule as totality via the chemical bond. This presents us with three facts:

- (i) First of all, we must distinguish the internal sphere of action of the atom.
- (ii) Secondly, we find the chemical bond which leaves the atom nucleus unchanged because it only reaches the outer electron shells, so that the atom nuclei can in no way be part of the chemical bonding.
- (iii) Thirdly, we find the enkaptic structural whole of the water molecule which enkaptically encompasses the atomic nuclei and bonds and ascribes to each its structural typical place.

15.2 Living things

In Chapter 2 we made acquaintance with the different biological points of view. Apart from the prominent physicalistic tendencies in modern biology – of which neo-Darwinism is certainly the best known and most influential – we also find other tendencies and viewpoints. Think only of holism, neo-vitalism, organismic biology, panpsychism and emergence-evolutionism.

The best known heritage from this variety of viewpoints is probably what we find in their way of referring to living matter. It is encountered even at school.

In a textbook from the New Syllabus of 1985¹ – we read, for example, that all “living organisms” are “built from matter” but that these chemical constitutive substances “do not themselves possess the characteristics which are associated with life”: “The phenomenon of life is only revealed by the activities of the matter from which it is built” (p.84).

1. Senior Biology, Std. 8, written by Du Toit, Van Rensburg, Du Toit, Botha, Van der Merwe, Volschenk, Van der Westhuizen, De Kock and Niebuhr – Third Edition, Second impression, Aug. 1985 Goodwood.

Further on, we often read of "living material" or of "living matter". However, a bothersome problem lies hidden in this expression: As far as physicists and biologists are concerned, there is no doubt that atoms, molecules and even macromolecules are NOT living – nevertheless "living matter" is still spoken of. If matter is not living, how is it possible to have something like living matter!?

Apparently this consequence is avoided by the statement: "A knowledge of the chemical make-up and physical nature of living matter does not yet explain the phenomenon of life. Even if these chemical substances were combined in exact amounts in structural units, they would still not be living. Life is only revealed through the activities of these substances. Matter is only seen as living and obtains biological meaning if it can fulfill the following tasks" (pp.88-89 – and then functions like metabolism, growth, fertilization and the maintenance of a constant state with the environment are named).

What an amazing story! Chemical matter (matter) is not alive – but yet its activities are described as living! It is comparable to the following statement: certain entities cannot speak, but their activities we call language. Matter – i.e. material things – are physical by nature, not biotic (living). Things which are alive are not entirely absorbed in the biotic aspect of creation, since they unmistakably have functions in other aspects as well. Living things are only marked or qualified by the biotic aspect – in distinction from material things which are qualified by the physical-chemical aspect of reality. Therefore we speak of the kingdom of material things and the plant kingdom.

This perspective in no way excludes the fact that living entities exhibit their uniqueness physically in a particular way. In the previous Chapter, we said that Karl Trinchler identified four macroscopic characteristics from which the physical uniqueness of a living cell is evident. Trinchler argues, also on the grounds of this physical autonomy of living things, that the living cell could in principle not be artificially manufactured. He believes that the opposite position, namely that living things are merely a developmental product of non-living matter, is responsible for the moral irresponsibility of contemporary natural sciences. He prefers to speak of a duality of matter, while we would prefer to speak of the irreducibility of the physical aspect and biotic aspect as two facets of the God-established order-diversity in creation.

15.2.1 Mechanistic reduction of the identity of living things

Already the indication: *living things* shows the active functioning of such entities in the biotic subject function – i.e. their biotic aspect. The fact that living things must be viewed in a thermo-dynamic way as open systems, shows that every living entity, distinct from the qualifying biotic aspect of it, also unmistakably has a physical aspect. This is the subject of the well-known book of E. Schrödinger: *What is life? The physical aspect of the cell* (1955). We already know that a living entity also possesses subject functions in the first

three aspects of reality. Important distinctive significance is often attached to the question of whether living things are self-moving or not, especially with regard to the difference between plants and animals. (This question appeals to the typical function of plants and animals in the kinematic aspect.) The continuity of life (durability) in a plant can definitely only be constituted in coherence with the kinematic function of living entities. Besides the proportions of spatial form of living things, their spatial function is also prominent in expressions like *bio-milieu* or *Umwelt*.¹ Finally, we have seen that a living thing is a unit in its various organic activities – when these numerous activities of life are no longer bound together the living entity disintegrates and dies.

We have already noted that living things, seen thermo-dynamically, maintain a flowing equilibrium through which order is drawn from the environment (Schrödinger calls it *negative entropy*). In other words, living things maintain themselves in a state of high static improbability – in a growing process ever more and more internal order is built up. This cannot, however, be seen as the distinctive characteristic of living things because various lifeless entities exist which represent thermo-dynamically open systems (like a flame or glacier).

Only when the qualifying biotic subject function of living things is taken into account does it reveal its distinctive characteristic in comparison to material things. This qualifying function determines the biotic identity of a living entity. According to the mechanistic approach in biology, living entities are only "complex physical-chemical systems of interaction" in which, according to the nature of an open system, continuous metabolic processes (ana- and catabolism) are taking place. From this it follows that a living thing must, on mechanistic opinion, possess a physical-chemical identity which are constituted by the atoms, molecules and macromolecules which are present. Which of these physical-chemical components are truly constitutive for the supposed physical-chemical identity of living things? Is it those atoms, molecules and macromolecules which are presently there, those which were there in past years, or those which will be there in the years to come? When living things are reduced in the physicalistic sense, through the mechanistic viewpoint in biology, to their constitutive matter-ingredients, then it goes without saying that the biotic identity is lost out of sight – the supposed elements of identity *continually changes*.

However, if the biotic function of living things is accounted for, it can even be said that a living thing, seen biotically, exists in a stable state (referred to as healthy), while at the same time – and without any contradiction – it can be said that it exists in an unstable state, seen physically-chemically (with regard to the fluctuating equilibrium of the constitutive building components). If the physical-chemical substructure of living things approach a state of higher

1. The term *Umwelt* became known especially through the work of the biologist J. von Uexküll (cf. e.g. Von Uexküll and Kriszat, 1970).

static statistic probability, biotic instability steps in as a signal of the final process of dying.

From his organismic biology (cf. Chapter 2 above), von Bertalanffy strikingly indicates the dead-end path of the mechanistic viewpoint which eliminates the biotic function of life processes: "These processes, it is true, are different in a living or sick or dead dog; but the laws of physics do not tell a difference, they are not interested in whether dogs are alive or dead. This remains the same even if we take into account the latest results of molecular biology. One DNA molecule, protein, enzyme or hormonal process is as good as another; each is determined by physical and chemical laws, none is better, healthier or more normal than the other" (1973:146).

15.3 An alternative structural theoretical approach

Although the habit of speaking of "living matter" is placed within another context by the different tendencies in modern biology, it still reflects the unsolved problems of each of the viewpoints.

For the mechanistic (physicalistic) approach, everything is in principle material, physically determined, which implies that any terms which appeals to the actual biotic aspect of things are problematic. Conversely, it is exactly vitalism which searches for the actual nature of "life" in immaterial life plans, formative factors or central instances. It also makes it difficult to speak of living matter in this viewpoint – a problem which a vitalistic biologist like Haas admitted with his accentuation of the fact that the physical substances maintain their "being and working" also "subsequent to their assimilation" in living things. Understandably, therefore, Haas is also critical of the habit of speaking of "living matter" – according to him, the biochemists and cell physiologists do not know of any "living matter" with "secret vital characteristics" (1968:24). He prefers to speak of the material substratum of organisms (1968:20-40).

This approach of Haas rejects what he sees as Aristotle's "monistic vitalism" – and at the same time he draws conclusions about his own approach: "The organisms therefore consist essentially of two realities which are distinguished from each other, a non-material component, it consequently possesses, viewed ontologically, a dualistic constitution" (1968:39).

In a striking way, Hans Jonas once gave a typification of the monistic forms of vitalism and mechanism. A monistic approach does not, like the dualist, reduce reality to two basic principles, because it wants to find ONE all-inclusive all-clarifying principle. That is why we can speak of *pan-vitalism* and *pan-mechanism*. Already in the earliest Greek philosophy of nature, we find *hulèsoism* (zoè = life; hulè = matter): one of Thales's indirectly preserved statements would be that everything lives. From this point of view it is unthinkable that "life" is not the normal, governing rule in the universe. Jonas points out: "In such a world view, death is a puzzle which stares man in the

face, the antithesis of the natural, self-explanatory and understandable, that which is the common life" (1973:20). The paragraph in which Jonas makes this remark is about: Pan-vitalism and the problem of death (1973:19 E.V.). Those, however, who think pan-mechanistically, stress the thought that phenomenon of life is actually a borderline case in the encompassing homogenous physical world view. Quantitatively negligible in the immeasurability of cosmic matter, qualitatively an exception to the rule of the material characteristics, epistemologically the unexplained in the explainable physical nature – that is how life has become a stumbling block for pan-mechanism: "Conceiving life as a problem here means that its strangeness in the mechanical world, which is reality, is recognized; explaining it means – on this level of the universal ontology of death – denying it, relegating it to a variant of the possibility of the lifeless" (1973:23). This paragraph deals with: Pan-mechanism and the problem of life (1973:22ff.).

We have already repeatedly stressed that a first step from this problematic situation has been given in the distinguishing of different modalities. The fundamental modal nature of the physical and biotic aspects remains only a functional condition for concrete entities which still function in this (and other) aspects of reality in a typical way. What is of importance in this regard, is the basic distinction between the aspects and the dimensions of entities – a distinction which has always been evident in the different trends in biology because modal functions are time and again spoken of as if they are concrete entities (that is where the expression of "the origin of life" came from, instead of "the origin of living things"). As an aspect of reality, life pertains to the how of entities and not the concrete what.

In addition we must stress that life phenomena are always connected to living entities which can, precisely as entities, not be totally enclosed in the biotic aspect. Especially in the vitalist tradition – which saw life as independent variations of an immaterial life force – this became a problem. That the biotic aspect of living entities cannot be seen on its own, i.e. separate from the intermodal coherence in which it is fitted, is still confirmed by the inherent analogies in the structure of the biotic aspect. Even the expression *life force*, which is so often chosen by vitalism (but remarkably enough, has been replaced with other terms like *Gestaltungsfaktor* or *Zentralinstanz* in the last few decades), can never indicate or typify the separate existence of the biotic aspect – simply because it unmistakably represents a physical analogy in the modal structure of the biotic aspect. In Chapter 3 we saw that force is a term which finds its original (i.e. non-analogical) spoken of home in the physical aspect of energy-operation.

With the help of the theory of an enkaptic structural whole, this problem is placed within a new context. The physical-chemical structure of the constitutive physical components of living things is foundational for their enkaptic (i.e. biotically directed) functions. When this perspective is accepted, the task of organic chemistry can be seen similarly to be foundational for

biochemistry, which ought to focus on the disclosed enkaptic functions of the material structures which are exposed by organic chemistry. This foundational relationship confirms the close interweaving of the structure and functions of the constitutive substances of living things. Today it is a virtually universal practice for the biochemist not to limit himself to an analysis and study of the biotically directed functions of macromolecular material structures, seeing that the biochemist is mainly concerned with the exposure of these structures themselves.

Within the context of the ordered (centred) structure of the cell, we find (seen from a biotic angle) the different organs (*organelle*) of the cell which are parts of a living whole. Because the cell is built up of non-living material ingredients, we cannot simply say that the *organelle* are parts of the cell. To explain the biotic life functions within the cell, we will in future preferably use the following word: *cell-organism*. In other words, the different organs in the cell are all part of the cell-organism. The different *organelle* in the cell exist naturally only on the basis of their physical-chemical constitutive substances – i.e. in the sense of a unilateral enkaptic foundational relationship.

The cell organism is consequently a specifically biotically qualified structure, which can only exist on the basis of the enkaptically-bound physical-chemical constitutive substances. Because these physical chemical substances are not biotically qualified, but still function in the living cell, we are obliged to also distinguish a structural TRIO if we want to give an account of the complex structure of the living cell.

- (i) Firstly, there are the physical-chemically qualified constitutive substances which already represent enkaptic structural wholes.
- (ii) Secondly, we find the cell's living organism as biotically qualified part structure which can only function on the basis of the enkaptically-bound building material.
- (iii) Thirdly, we find the cell body as structural nexus which enkaptically embraces both above-mentioned part structures.

15.4 The animal kingdom

Although we approached the relationship between man and animal from a specific angle in Chapter 2, we conclude this discussion of the nature of natural things with a succinct reference to the structure of psychic-sensitive qualified entities.

From our daily life we know that something is either material, vegetable or animal. For any scientist who is in search of "bridging forms" the troublesome implication of this is naturally that there is no third possibility: if something is either material or vegetable, all candidates in between drop out. Therefore the question whether something like viruses are "living" or "non-living" cannot provide a transitional form. It does happen that through our

scientific inability, we have no answer with regard to the systematic classification of particular entities. Sometimes it turns out that our classification was incorrect – like in the case of Arasiales – a group of amoeboid animals which were previously classified as plants. From this perspective, we must appreciate the position of protista.¹ What is remarkable in this regard, is that within the protista, a distinction can be made between those that possess vegetable characteristics² and those that possess animal characteristics.³

Not only are there divergent classifications in the animal kingdom, but there are also clear differences in perspective. Without going into detail in this context, we mention only that the tension between nominalism and realism – which has stayed alive in Western scientific history since Plato – even caused the paths of modern biological theories to separate. The realistic approach has been known as the idealistic morphology since the 17th century (following thinkers like Ray and Linneaus).⁴

While nominalism departs from a structureless continuum (each organism is wholly unique and cannot be forced into some or other universal ontic form), idealistic morphology accepts "primal types" (e.g. a primal leaf, a primal plant, or a primal animal) which serve as genuine platonic models with reference to which any empirically observed living thing or fossil has to be judged.

The idea of an entity structure which acts, as a typical total structure, as the law for the entities which are subject to it, represents a structural theory which wants to overcome the one-sidedness in a realistic (idealistic) and nominalistic approach. The structureless continuity of a nominalistic vision simply does not allow relatively-constant structural types. Just as a modal-physical law cannot be identified with any subject function or concrete subject, the structural types of plants and animals cannot be reconciled with particular concrete plants or animals. However, entity structures are types which are embedded in the cosmic dimension of time and which still find their correlate in the succession of transient individual living creatures which appear on the paleontological horizon during the course of the history of the earth.

The physic-sensitive qualifying function of animals is expressed in the total life orientation of animals. Portmann typifies animals well when he says that they exist instinctually-assured and milieu-bound (1969:86).

1. The protista is a group of living things which are grouped apart as a result of their simple biotical organization. It includes algae, bacteria, fungi, slime and protozoa.
2. E.g. those who gain their energy by means of photosynthesis, including algae like Chlorophyta, Euglenophyta and Pyrrhophyta, as well as plantlike protozoa of the class Flagellata.
3. E.g. protozoa feeding by means of absorption or ingestion.
4. Out of the pen of W. Troll an encompassing and authoritative botanical textbook appeared (3d impression 1973) written from the perspective of the idealistic morphology.

16. Interaction in human society

Actual interaction between people still functions in some or other specific way in the complete structure of the social aspect. By way of this concrete functioning, the universal modal structure of the social aspect (with the analogical structural moments which are present in it) is specified differently in every instance. This specification has other possibilities with regard to distinct analogies. When we for instance look at the nature of the kinematic analogy, we can distinguish between the ways of interaction which are of shorter and longer duration. This applies, in other words, to social interaction with a changeable durability – ONE kind of relation can show a rather long continued existence, while another relation can be quite incidental. The meaning of these possibilities are only closely captured when the precisioning of other analogies are accounted for. As analogies of thermodynamic open systems (i.e. the physical analogy in a precise sense) some show such durability in social relations that the mutual exchange (coming and going) of individuals does not abolish the existence or identity of that specific social relation. The expression: inter-action signifies a combination of the spatial and physical analogies – and it goes without saying that just the incidental social interaction cannot constitute a durable whole which continues regardless of the exchange of participating social subjects.

This remark refers us to the alternative specifications which the spatial analogy can receive. Social interaction can occur, for example, within a life form which is integrated to a genuine whole (totality), or it can occur on a less rigid basis of standing-opposite-one-another/facing-one-another. The standing-alongside or co-ordinate nature of certain forms of social interaction faces in turn those forms where the definitive relations of sub- or super-ordination are found. This particular expression of the spatial analogy refers us directly to the historical analogy on the norm side of the social aspect, because this analogy applies to the competence (power) of a specific bearer of authority over certain subjects. This is not the only context where the term competence is used – inter-individual relations which are on an equal footing presumes a certain social maturity or competence, even if it applies to something like little children playing. This competence for social exchanges constantly requires the ability to correctly interpret the response of other social subjects (analogy of the sign aspect), because without it the mutuality of interaction would become dispirited.

From these examples it is clear that a classification of the different underlying ways of interaction will have to keep the meaning which a particular expression of all analogically structural moments in the social aspect acquires in mind. Because a complete analysis of this would take us into an analysis of the complex (or: composite) basic concepts of sociology as scientific discipline, we subsist with the result of such an analysis.

What it comes down to (in the light of our previous remarks) – besides the question in which way are specific analogies in the structure of the social aspect specified – concerns the following two characteristics: (i) a solidary unitary character and (ii) a permanent authority structure.

When a societal form (referred to in future as a *life form*) possesses both a solidary unitary character and a permanent authority structure, we call it a *consociational bond*. Examples of consociations are the state, the church, business, the school, the university, the family, the art club, the sports club, the cultural club and the language club. The state possesses a durable sub- and superordination of authority and subject (i.e. a permanent authority structure), while the unity and identity of a state is not abolished by the exchange of its citizens (either office bearers or subjects). The same applies for all the other consociations that we named in the list of examples.

When life forms possess only one of these characteristics, we call them communities. A nation ('volk') and the extended family possess a solidary unitary character (that is why there is continuity between the Afrikaner nation of a hundred years ago and today in the midst of changes), but no permanent authority structure can be indicated. The marriage community does possess a permanent authority structure, although a solidary unitary character is absent. In terms of these distinctions neither a state, nor a province, nor a rural town is a community. With reference to the state-side of the given facts, we are working with (higher or lower) forms of governmental authority – and therefore with subordinate and superordinate relations which are absent from the community as we have described it. In reality a city and a town exhibit an enkaptic interweaving of diverse consociations, communities and associational relationships. Associational relationships have neither a permanent authority structure, nor a solidary unitary character – it concerns the inter-relations of individuals and organizations on an equal footing with each other.

The approach which we have followed here is only aimed at the social aspect, that is to say on the different ways or functions of interaction in the social aspect. It means that the typical total structure of life forms is ignored in such a way that account is taken of neither the foundational, nor the qualitative function.¹

1. Dooyeweerd links the nature of communities directly to their (natural-biotic) foundational function and then states that historically founded (i.e. organized) communities can be referred to as consociations. Natural communities, on the other hand, are unorganized (Cf. *New Critique*, 1969-III:178ff.). This approach has as a result that Dooyeweerd cannot meaningfully distinguish between a marriage and a family, since he sees both as natural (i.e. biotically founded) and ethically qualified communities. In terms of our distinctions a marriage is a community and a family is a consociational bond.

16.1 *The correlation between consociational and communal relationships on the one hand and associational relationships on the other hand*

In a differentiated society various life forms exist which bind together individuals for all or part of their lives, independent of their own decisions. Think, for instance, of the state – a life form which does not (as the humanistic behavioural theorists thought) originate from a mutual agreement (contract), but which nevertheless organizes its citizens in various ways independently of their will (e.g. with regard to tax obligations). Dooyeweerd calls such life forms institutional (1969-III:187). Marriage exhibits an institutional nature because it is meant to constitute the spouses' marriage relationship for the duration of their lives. Man is born within a family and circle of relatives and grows up in it without any choice. Like this life form, the church is also institutional because baptising (as a sign and seal of the covenant) is done independently of the child's will.¹

Not all consociations possess an institutional character. Think only of a business, university or a sport club – all examples of consociations which rest totally on voluntary membership. Yet it is impossible for any person to let his life be taken up completely in any of the various consociations and communities in which he functions – simply because he also takes part in various other interrelations. Two families stand for example, in a (inter-consociational) associational relationship; two married couples in a (inter-communal) associational relationship. Furthermore, every individual is, in a differentiated society, taken up in countless inter-individual associational relationships where he relates informally with fellow men in co-ordinate relations. Conversely, no person's life is completely involved in associational relationships, because the opposite of them is found in the institutional and non-institutional covenants and communities in which he is involved. The variety of DPP-relations to which we referred in Chapter 1 is therefore nothing more than the multiplicity of consociational, communal and associational relationships in which man is involved.

In contrast to this, we look at the nature of an undifferentiated society.

16.2 *The nature of an undifferentiated society*

The first general characteristic which can be pointed out, is given in the indication which we have chosen: its *undifferentiated-ness*. This undifferentiatedness marks both its foundation and its qualification. When we dealt with natural things, we saw that such entities still possess a univocal foundational and qualifying function. In an undifferentiated society, such univocal radical-typical functions are absent. All activities in such a society are bound

1. Sects denying paedobaptism thus deny the institutional character of the church.

together in ONE undifferentiated organizational form.¹ In a differentiated society, each independent life form possesses its own organizational form, which coheres with the fact that each life form also possesses its own and univocally differentiated qualifying function.

Since undisclosed societies have a part in an undifferentiated organizational form, there is no possibility of any differentiated qualifying function. The variety of life forms which later, in the course of a gradual cultural-historical differentiating and disclosing process come to the fore, is bound together in an undifferentiated manner in such a society. That is why such a society does not only exhibit an economic aspect, because the whole acts as something which is recognised on a differentiated cultural level as an economically qualified business (whether it be of a hunting-, agricultural or cattle farmer type). An undifferentiated society exhibits not only a juridical aspect, because as a whole it acts as fulfilling the functions which are performed by an independent state on a differentiated civilizational level. The same applies to the faith aspect – the undifferentiated society acts as a whole in cultic-religious capacity similarly to a differentiated faith consociational bond. Within the undifferentiated total organizational form, we therefore find a variety of structurally typical "evaginations" which time and again brings its totality to activities which are performed by independent life forms in differentiated societies.

This state of affairs implies that the correlate of the undifferentiated foundation (viz. one total organizational form) is given in an undifferentiated qualification. This means that there can be no possibility of a univocal qualifying function, because ONE of the enkaptically interwoven structures has taken the lead. This is obvious from the nature of the most basic type of undifferentiated society. This type of society, which bind parents, children and grandchildren together in a patriarchal unit, puts the patriarch and the oldest son in such a position that it cannot be exclusively derived from the blood relationship which exists between them – for that a specific kind of historical organization is needed.

The extended family does not only have a family structure, because in its undifferentiated total structure, other life forms are also interwoven. The presence of the political structure is clear from the force with which the patriarch maintains internal order and peace. Equally clearly the economic enterprise can be distinguished by the way in which the subsistence economy functions. The question is: which one of the enkaptically interwoven structures takes the lead in the undifferentiated total structure?

The role which the (fatherhood-related) family structure plays in the extended family is truly of a central leading nature – despite the fact that the interwoven family structure does not inherently possess a permanent authority structure.

1. Cf. with regard to this entire problematic the striking analysis of Dooyeweerd – 1969-III:346-376.

The sib (clan or gentes), which apparently only occurs when agriculture and livestock farming partly or completely replaces hunting as the basis of economic life, is an associatively organized larger group of relations (where either only the father's or the mother's line of descent is taken into account). Normally, membership is dependent on blood relationship, that is to say it rests on natural birth. However, the sib is so large that it is no longer (as in the extended family) direct descent from a communal father – although such descent functions as a fictitious presupposition or mythological conception. Besides activities like the ancestor cult (typical of an eventually differentiated faith consociational bond), carrying out revenge (which at a higher level of development is carried out by an independent state consociational bond), and the presence of forms of the division of labour, also the family structure is interwoven into the sib. In reality this interwoven family structure takes on the undifferentiated leading role in the sib – a leading role which rests on a particular historical form of power organization (just as in the case of the extended family).

It is only the stronger organized tribe that displays such a prominent political organization that the interwoven family structure cannot any longer take the lead in it. Nonetheless there is not yet any mention of a durable monopolistic organization of the sword power in this leading political structure (as in the case of a true state), because even fights between members of the tribe do not provoke any tribal punishment – only a relative of someone who is killed in such a fight could consider revenge ('bloedwraak').

Further examples of undifferentiated societies are i.a., the guilds of the middle ages (with structures similar to those of the extended family and sib, but without any real or fictitious common descent), the pre-feudal and feudal communities (villas and domains) and lordships.

16.3 The structure of a few life forms

The classification of the diverse ways of interaction in a society does not contain a closer indication of the specific differences among the various consociations, communities or associational relationships. In order to establish that, we must look at the analysis of typical total structures – as they function simultaneously in all aspects of reality.

16.3.1 The state

Before the emergence of the modern state a dominant form of historical political organization was the monarchy, which was the private property of the monarch. In the undifferentiated structure of late Medieval society (that is, the non-church society), government authority was an item of trade (a *res in commercio*) over which the sovereign lords could freely dispose. When private persons or corporations gained this authority, it was their inviolable right. Government authority was not as yet seen as a public office standing in service of the public welfare (the common good – *res publica*). Especially

the undifferentiated nature of the guilds, encompassing all the spheres of life, stood in the way of the realization of a true state consociational bond.

The state characteristically possesses a public legal character – as against the monarchy as private property of the monarch. For this reason the state is characteristically a truly public matter. In this public legal sense of the term the sovereign state can emerge when the process of civilizational development allows such differentiation and unfolding of human society, that a variety of unique societal forms can come to the fore in an integrated manner, each with its own internal organizational form and sphere of legal relations. In such a process of crystallization the state cannot emerge on its own – a range of other distinct non-state societal forms should also emerge. Such structures as the church, the school, the university, the business and many more emerge through the course of the historical process of differentiation.

The public legal consociational bond character of the state implies, strictly speaking, that every individual state is characteristically a *republic*, that is, a *public legal institution*. For this reason we should not see a republic as a particular form of government – as, for instance, in distinction from a *monarchy* (cf. Van Schoor and Van Rooyen, 1960: 16). The republican character of the state does not tell us anything about its particular organizational form. A state could be organized as a power state (an absolute dictatorship), as in the case of traditional communist states. The communist "people's republics" are really power state-republics. On the other hand we find a range of *law state-republics* (in Afrikaans: *regstaat-republieke*).¹ South Africa is, for instance, a parliamentary democratic republic, in distinction from the Netherlands which is a monarchical republic. If we use this perspective consistently, we would have to refer to a democracy as a 'civil-state'-republic.

By placing the state in the context of the principle of sphere sovereignty, we principally avoid the two extremes of a totalitarian whole and individual freedom.

The history of reflection on the nature of human society and the state is characterized from ancient times by these two opposing points of view: the presupposition of some or other societal whole which integrally encompasses man, as opposed to the conviction that human society is nothing more than the sum of a number of free and autonomous individuals.

While there was something in Greek civilization referred to as a "democracy", this was by no means what we would understand by the term. In the Athenian democracy of Pericles (5th century before Christ) the legislative institution could make laws which regulated the lives of Greek citizens in a totalitarian manner. This was coherent with the Greek view of human society.

1. We can state provisionally that political freedoms exist in a law state, both civil freedoms and civilizational freedoms within the non-state forms of life. In a power state none of these freedoms exist. This distinction will become clearer when we pay attention at a later stage to the nature of the different legal spheres in a differentiated society.

The sum of Greek wisdom with regard to the state is to be found in the ideal of an all-encompassing, self-sufficient state. Both Plato and Aristotle see the state as the capstone of human society. Plato sees the state, with its three estates, as a high and encompassing whole which strives towards the good, but which allows no real space for distinct non-state societal relations. Aristotle's organological (teleological) view principally denies the possibility of unique non-state life forms. In his view the state grows organically out of the nuclear family via the extended family and town community into the supposedly self-contained total state.

This frame of reference continuous in use, with minor or major changes, during the Middle Ages. In this period the Roman Catholic church, as relatively differentiated superstructure, dominated the undifferentiated societal substructure. Troeltsch referred to this situation with the term "ecclesiastic unified culture", indicating the total way in which the church dominated society.

In theoretical terms the unfettered glorification of the autonomous individual only appeared during the Renaissance. Apart from the reconsideration of Classical Greek and Roman culture we find in the Renaissance the point of departure of a new spiritual attitude, placing man, *humanitas*, in the centre. Modern man considered himself free of all papal authority and attempted to take his fate in his own hands by setting a self-generated law for himself. Rousseau worded this fundamental inclination of modern thought as follows, "obedience to the law which we prescribe for ourselves, is freedom" (Rousseau, 1975: 247). This marked the emergence of the desire for autonomous freedom in modern anthropocentric, humanistic thought.

In the individualistic approach the personal freedom and/or equality (and unlimited discretion) of the supposedly autonomous individual was elevated to the highest good. A reaction to this one-sided individualism was to be expected. This reaction, unfortunately, was excessive in the opposite direction – some or other societal whole was overemphasized. The heritage of thought understanding state and society in terms of a large encompassing whole with parts has its origin in the post-Kantian freedom idealism of the beginning of the previous century, when we first came across the modern universalistic community ideology (Schelling, Fichte and Hegel). The opposite approach has an even earlier origin in the thought of the Enlightenment which attempted to provide an individualistic and rational explanation of the existence and nature of the state by means of the hypothetical "social contract" between autonomous individuals.

The effect of these two opposed traditions (the universalistic and individualistic) is also evident in the political history of South Africa.

Consider the extremes in contemporary South African politics. On the one side is those groups who are concerned above all with the rights, interests and self-determination of "groups" and on the other extreme those who ad-

vocate the absolutely free interaction between individuals. A position apparently in between these extremes is taken by those supporting the theory of consociative democracy, in terms of which we have to take into account the two extremes of "state" and "individual", as well as the intermediate groups, even if these are considered to be part of the state. Practically this refers particularly to different ethnic groupings, which leads to the question whether we can justifiably promote non-state relationships like membership in an ethnic group to an integral part of citizenship in a state?

To escape this impasse we ought to acknowledge the distinct life forms which are not part of the state, but which are nonetheless interwoven with the state as public legal consociational bond.

16.3.2. *The nature of the state as public legal consociational bond*

The state is characteristically a legal consociational bond called to maintain balance and harmony among the multitude of legal interests present on its territory, and which must act legally restorative whenever legal breaches occur. Government and subject are fitted in a consociational relationship. As such the state, as one of the life forms in a differentiated society, is founded in the governmental monopoly over the power of the sword (land, air, sea and police forces). It is directed by the idea of public justice which demands that all subjects on the state territory must receive what is justly theirs.

The government of a state is set over the citizens in its territory and must as such be distinguished from the state itself which encompasses both government and citizens. In a law state (civil state) government is put into office by the enfranchised citizens according to the applicable public legal election regulations.

A differentiated society does not only present itself to us in diverse unique (—sphere sovereign) life forms (church, state, business, family, school, etc.), but also in three indissolubly coherent legal spheres. What legal spheres can we identify in a differentiated society?

(i) The public legal sphere

This sphere encompasses the relations within the state between government and subject, as well as the legal order among nations (international law), with its assotational nature. As such it encompasses international public law, constitutional law, penal law, penal procedural law, and administrative law. The political rights of citizens are circumscribed by this legal sphere: the right to political assembly, organization and opinion, as well as the rights to criticism and protest, with the right to elect as the capstone.

(ii) Civil private law

In civil private law all non-state relationships in which a subject may take part are ignored. This legal sphere protects citizens in their position as free individuals within the differentiated legal interaction and is as such the guaran-

tee for individual personal vindication in legal life. In distinction from constitutional law in which their is a superior-inferior relationship between government and subject, civil private law maintains a co-equal legal relationship among individuals and institutions. Both public law and civil private law are juridically qualified.

(iii) Non-civil private law

This is the sphere which encompasses the internal law of the various non-state life forms. This means that in every instance such law is differently qualified. Internal business law is qualified by the economic function of business; internal church law is qualified by the faith function of the church as a faith consociational bond, etc. This law sphere delimits the legal competence of the state externally – that is, apart from the internal delimitation of government action by the juridical qualification of such action.

If these fundamental differences between the various legal spheres are ignored, it would be impossible to constitutionally value the diverse legal interests within the territory of the state correctly.

This approach emphasizes above all else the juridical task of the state, as a public legal consociational bond, to maintain the law. Only in this way can proper care be taken of the legal protection to which every citizen is entitled, knowing that the government is called to protect their particular (state and non-state) legal interests, and to harmonize all these interests in one political legal order.¹

17. Marriage – divorce or living together?

When one says that marriage was ordained by God at creation as a two-in-one community of love for life, the response (especially among modern young people) is often a bored shrug. Living together seems to be more convenient and less troublesome, according to the increasingly influential counter-argument. Can we still understand marriage particularly as a love relationship with a particular relationship of authority between husband and wife, in which no unity exists apart from the particular marriage partners – i.e. if either party should fall away the marriage no longer exists.

The central question is whether fundamental norms (principles) have been given for marriage life. From the perspective of the worldview presented in Chapter 1 the answer would have to be in the affirmative: along with all typically human activities and life forms marriage is normatively structured – the nature of marriage places certain claims on both husband and wife, requiring obedience, but which are all too often ignored by fallen human beings. The

1. If more attention were to be paid to this perspective on the nature of the task of the government we would be principally liberated from the misplaced emphasis on ethnic conflict – a non-state perspective which could then be replaced with the necessary demand for a consociational public legal integration, such as the government of a law state should institute.

structural principle of marriage requires of man and wife that they should love each other.

The lasting identity of marriage does not depend only on the subjective love relationship with each other (which can differ from moment to moment, experiencing both highs and lows), since both marriage partners are subject to the divinely instituted structural principle of marriage as a love relationship. This normative structure provides the principal guarantee for the durability of the marriage, and is the touchstone by which the couple must measure their subjective love relationship and towards which their common love must be directed.

That marriage is characteristically monogamous has been disputed especially by evolutionists. Their view is that the original forms of marriage were polygamous and polyandrous, which slowly evolved into monogamy. Remarkably, some of the oldest known cultures – certain pigmy societies – practice monogamy! The normative structure of marriage is by no means suspended in situations of polygamy or polyandry. These are simply antinormative attempts by one man (or woman) to be in more than one marriage relationship at the same time. In a society in which monogamous marriage is honoured as an institution, it could happen that one person legally enters into more than one marriage relationship, one after the other.

A central question, also asked by modern young people, is whether two people who really love each other aren't already "married" in God's eyes and may share in the intimate privileges of marriage before acknowledging their external societal responsibilities. This question reflects a tradition which came to the fore at the beginning of the nineteenth century (the Romantic period) and in terms of which the marriage bond depends entirely on the continuation of the mutual subjective love of the marriage partners.

If this was true, marriage would have no structural durability or identity, since there would be numerous occasions on which one or the other of the marriage partners do not show enough love (say, during a domestic quarrel), temporarily suspending the marriage! It is clear that this approach does not acknowledge the ethical imperative of marriage love (in terms of the structural principle of the marriage). It suggests that two people who once loved each other may as easily be released of their love responsibilities in marriage, even by the mere declaration that they no longer love each other.

While marriage calls the marriage partners to mutual and durable love, marriage is not only about this love relationship. As an institution marriage is interwoven with church and state. Internally marriage is qualified as a love relationship, but externally it is interwoven with all other life forms.

For this reason marriage does not only possess an internal legal sphere. Marriage is also interwoven with "thirds" – a side belonging to the sphere of civil law. Additionally, both marriage partners also have public legal interests

– since the protection of their lives and property represent public legal interests which has to be protected by the government in its public legal order.

The civil law-side of marriage emerges in the marriage contract which regulates the relationship of the marriage partners to thirds: it is in the interest of legal interaction (e.g. eventual creditors at bankruptcy) that marriage is organized within an applicable juridical arrangement. Apart from these external civil legal arrangements, the wedding has a public character which serves the interests of the public consociational order of the state. As a result of these interwoven relations between marriage and other life forms (in which each form retains its sphere sovereign unique internal character), getting married and divorced can never be left entirely to the decisions of the marriage partners.

Marriage is founded in the biotic function of life. It is in this function that the gender difference between man and woman is originally expressed. But sexual interaction between man and woman does not encompass this foundation. Since marriage is qualified by a typical love relation, the sexual interaction between the marriage partners is internally directed and deepened by the marriage bond of love, and should therefore only given expression in the institution of marriage (as a monogamous relation for life) in a disclosed, diversified society. What happens, however, when marriage partners divorce?

The public form of the wedding (in which an interweaving of marriage, state and church takes place) nonetheless presumes the internal bond of love between husband and wife. No civil or ecclesiastic order can guarantee obedient expression of the love internal to marriage. This can only come about when the love relation between husband and wife complies with the normative demands on the marriage.

When marriage partners live in continual strife, or as strangers or enemies, it is evident that the internal marriage bond between man and woman has already fallen apart, even if the marriage still functions formally as a unit in societal interaction to the outside. If steps are taken in a civil court to dissolve a marriage, the judge cannot present "grounds" for the dissolution of the marriage, since he does not have the power to maintain or dissolve the internal bond of marriage. He can only affirm from the outside, from the external perspective of civil law, that the marriage partners will no longer act in legal interaction as married people, because of the already existing continuing disrepair of the internal bond of marriage. As a result of this disrepair the civil judge can therefore find grounds for the formal divorce. Whoever takes the external civil grounds for the divorce for the internal grounds for divorce in the marriage, turns the matter upside down, exchanging cause and effect: marriages cannot end on the decision of a divorce court, but are ended in the divorce court because the internal bond of love no longer exists.

Apart from the internal and external legal relations of the ethically qualified marriage relationship, marriage also exists in a number of other nuances characterized by love. The internal truth and trust in marriage is strengthened by common faith convictions – thus the striking Dutch proverb: twee geloven op een kussen, daar ligt de duivel tusschen (two faiths on one pillow, between them lies the devil). The fellowship of husband and wife in marriage ought to be characterized by particular love harmony and balance, which is refined in love interaction to an own love symbolism and love style on the basis of a considered and considerate love feeling which creates the calm atmosphere for a dynamic and lively realization of that intimate two-in-one community which a marriage should characteristically be. As such the choice of a marriage partner finds its easiest vantage-point in the lifestyle of someone who comes from the same cultural community, even while a successful marriage between Christians from different cultural communities are not excluded.

The structure of marriage has been given to man in principle and not in an already positively realized form. For this reason every married pair, also in a civilized society, has a calling to give concrete and positive shape to their love relationship with full love responsibility.

18. Church and Kingdom

Since we have already extensively discussed the relation between the one encompassing RCT-relation of human existence and the diverse DPP-relations in which people partake at the same time (from the perspective of the foundational role of worldview decisions in life and science) in Chapter 1, we shall only emphasize a few central distinctions in this regard.¹ Of particular importance is a clear picture of the continuities and discontinuities between Old and New Testament. A meaningful perspective in this regard cannot escape the question of the relation between the "old" and the "new" Israel. Equally little can the relation between "church" and "kingdom" be ignored.

18.1. Continuity and discontinuity

In the Old Testament Israel was the people of God. As covenant people Israel was a holy people (cf. Lev. 19:2) chosen by God to be his own (Deut. 7:6). God claimed complete obedience encompassing all of life from Israel. Consider the numerous economic regulations,² regulations for dealing with

1. A more comprehensive treatment is available in Strauss, 1980: 238-263.

2. Such as the remission of debts every seventh year, the ban on interest from fellow Israelites, the honouring of the sabbath year and the year of jubilee, the responsibility to take care of the poor, etc.

rebellious children, for the different forms of judicature,¹ for love relations,² and for a variety of cultic-religious matters.³

This life-encompassing covenant appeal provides the background for the blessing and curse in Deut.11:26 ff. (cf. Deut.28), "the blessing if you obey the commands of the LORD your God that I am giving you today, the curse if you disobey the commands of the LORD your God ..."

In the midst of this total obedience appeal we must keep in mind the Old Testament veil-order which implies a distinction between holy and less holy (not unholy!): the sabbath (which must be honoured) against the other six days of the week, the tenth against the other nine-tenths, the Levite against the non-Levite, clean against unclean animals, man against woman (only men could become high priest), the eldest son (receiving a double inheritance) against the other children, and last but no least, the people of Israel against all other nations.⁴

The incarnation of Christ, and particularly his crucifixion, has torn the veil (which delimited the most holy, which the high priest could enter only once a year with a blood offering) from top to bottom. The writer of the epistle to the Hebrews states clearly that a new and living way has been opened up for us "through the curtain, that is, his body" (10:20). The rift of the curtain indicates that the death of Christ opened the way to God for whomever God chose in Christ. Paul even says that "he chose us in him before the creation of the world to be holy and blameless in his sight" (Eph.1:4).

Those elected in Christ are no longer limited, as in the Old Testament with its particular covenant, to an identifiable nation (the old Israel), since it indicates the elect out of all nations – something which Paul and Luke, among others, emphasize (cf. Eph.2:11ff, Gal.5:1ff and Acts 15). The symbolic character of the Old covenant is now fulfilled, and with it the veil-division between Israel and non-Israel, since in Christ we are all baptized into one body, whether we are Jews or Greeks, slaves or freeman (1 Cor.12:13, cf. Gal.3:28).

Peter refers to the new elect humanity in Christ in Old Testament terms: a spiritual house, a holy priesthood (1 Peter 2:5), a chosen people, a royal priesthood, a holy nation (verse 9) (cf. Ex.19:5-6).

In the same way that the old Israel had to live obediently to God in all expressions of life, in the same way the new people of God, the new Israel, have to stand in the service of God with all of their lives, within God's Kingdom –

1. The elders who sit in the city gates, adjudicating various applicable punishments.
2. E.g. the letter of divorce, the levirate, regulations regarding chastity and matters of marriage and the family.
3. Consider the various festivals, sacrifices and the pilgrimage to the place selected by God to establish his Name.
4. The Roman Catholic dualistic view of nature and grace (secular and sacred) is i.a. an imitation of this facet of the Old Testamental veil-order.

whether they eat or drink, or whatever they do (f. 1 Cor.10:31 and Col.3:17). The Old Testament veil-order has ended, there is full life in Christ, God's Spirit consecrates whatever it works within, setting it apart and dedicating to God who is present in Christ and through the working of the Holy Spirit – all days of the week, all places on earth, all ten tenths of our income, in all life forms (not only in the church institute) within which we may live in Kingdom service of God.

18.2. The Kingdom of God

We have already seen that having citizenship in the Kingdom of God depends on being born again in Christ. The term "Kingdom of God" is understood in a few slightly different ways:

- (i) The Kingdom refers first of all to the creational government of God in Christ over all that is – God did, after all, create everything in Christ (cf. John 1:1ff, Col. 1:15ff.); Christ to whom all power in heaven and in earth has been given (Matt. 28:18).
- (ii) Secondly the Kingdom indicates since the Fall God's government over both the old (fallen) humanity (in Adam) and the new Israel, since fallen creation is still maintained in Christ (the second Adam) (Col. 1:17). Since God maintains creation in Christ both believer and non-believer can still live within the possibilities which God has given for being human at creation.¹
- (iia) By means of God's saving intervention in Christ he rules in Christ and by means of the work of the Holy Spirit in the heart and life of every believer, to whom he was given as head above all other things (Cf. Eph. 1:21 and Col. 1:18).² Wherever the elect citizens of the Kingdom are obedient with all their hearts to the creational will of God – in whatever facet of life – there the Kingdom of God has already come.³ The present Kingdom indicates simply the degree to which reborn people can obediently give expression to their divine calling in every avenue of life and on every terrain of life.

1. Sin acts as a parasite on these possibilities, twisting it in a idolatrous, God-disobedient direction.
2. Notice that Eph.1:21 refers to what has been discussed under (ii) above – the creation-wide government of God in Christ which extends also over apostate humanity, while Eph.1:22 (and Col.1:18) refers to the creation-wide government of Christ over the citizens of the Kingdom, over those who share in the total, radical and integral meaning of his salvation and the whom he has been given as Head.
3. Whether it is in the manner in which the christian farmer expresses his economically normative stewardship, or the obedience of the marriage and family to the demands of God for intimate love relations, or in the way in which christian citizens respond to their political calling, or even in the way in which members of a church form the church into a sincere and sympathetic community of faith which serves to strengthen faith by means of the ministry of the Scriptural Word in common praise and worship.

(iiib) Since we are still only saved sinners in this order even our best works are still despicable in God's eyes – cast through with the sin which still accompanies us, but, by the grace of salvation in Christ, no longer governs us. The creational history beginning in the Garden of Eden, has been deepened by the vicarious intervention of Christ which allows a future hope on the new Jerusalem, the coming Kingdom.

Creation inherently contains the structural principle of a faith consociational bond – a super-individual and super-arbitrary point of departure which can receive closer positive expression either directed towards God or away from Him. The church institution is nothing more than such a God-oriented expression of the normative structure of a faith consociational bond. This implies that the church is by definition a faith consociational bond – in distinction from the various non-christian faith consociations (like a mosque or synagogue).

Christ is the root of both common and particular grace (as Kuyper calls them) – Christ acts as mediator both in the maintenance and salvation of creation. Claims that the church can only be Christian does not prove that the church belongs to a supernatural order of "recreation" or "salvation", but are mere tautologies: a christian faith consociational bond (the church) can only be christian! It is contradictory to claim that such a thing as a non-christian church could exist, since this means literally: there exists a non-christian christian faith consociational bond! Just as little as the church can be non-christian and remain church, can a mosque be christian and remain a mosque!

Suppose we called a christian state X and a christian university Y – then it is equally tautological that X and Y can only be christian like the church, since all three are typical terrains of God's kingdom equally rooted in the body of Christ. The fundamental antithesis: for or against Christ, cuts through the heart and all other sectors of life and not merely through the ecclesiastic sphere of faith.

The word *ecclesia* is undoubtedly used at times in the New Testament to indicate the central relationship with Christ (cf. Col.1:18 and 24 as well as Eph. 1:22-23). In the first case the body of Christ and *ecclesia* are used as synonyms, in the latter it is stated that the *ecclesia* is the body (soma) of Christ.¹

The life-encompassing kingdom service which is to be rendered by the people of God, explains why both Augustine (cf. De Civitate Dei, XX, 9) and Calvin (Cf. Institution, IV, 2, 4: "the church is the kingdom of christ") identify *ecclesia* with *basileia* (kingdom). H. Ridderbos comments in this regard that

1. Even when the use of the word *ecclesia* refers to the relatively undifferentiated fellowship of the people of God, the meaning of being elect, or called-together, cannot at its deepest refer to human organization, since our election in Christ is independent of any human organization or desert.

the New Testament nowhere refers to the people of God ("church") as "kingdom" (1950: 296ff.). When kingdom refers to God's government over all creation by means of his creational Word, the kingdom does indeed encompass the *ecclesia*. We have already referred to the distinction between the coming kingdom and the kingdom come – only the latter indicates those terrains of human life in which the people of God obey God's kingdom will with all of their lives. It is indeed mistaken to identify *ecclesia* and *basileia*. One facet of the view of Augustine and Calvin, however, must be retained when we distinguish between the kingdom (*basileia*) and the citizens of the kingdom (*ecclesia*): the calling of the citizens stretches across the kingdom and cannot be delimited to one expression of the kingdom (e.g. of cultic nature).

It is noticeable that reformed theologians, when distancing themselves from the Roman Catholic position (i.e. that the kingdom in this world coincides with the church), mostly simply emphasize that the kingdom reaches further than the church, without rejecting the traditional Roman identification of the citizens of the kingdom (the body of Christ, the *ecclesia*) with the church as institution! The gospel of the kingdom of God always calls forth its correlate of the new people of God, the citizens of the kingdom, the *ecclesia* in this RCT-sense.

The Biblical antithesis between *ecclesia* and world is co-extensive with that between the kingdom of God and the kingdom of darkness. The unbiblical Roman dualism of nature and grace is evident in an understanding of the antithesis as being between the church as institution and the various non-church terrains of life. This view is simply a consequence of the church-centric misindication of the nature of the citizens of the kingdom which we have already referred to critically in Chapter 1.

19. Societal forms – the "internal" and "external" coherence among aspects

In terms of the distinction previously drawn among consociations, communities and associational relationships it was not yet possible to indicate the foundational and directive function of any of these. Only these unique, differentiated foundational and directive functions of the particular life forms typically specifies them. This means, however, that we are moving beyond the limits of the modally-delimited (elementary and composite sociological) basic concepts. The total nature of such life forms can never be justified only in terms of the various ways of interaction, simply because they function concretely in all aspects of reality.

This concrete functioning in the various modal aspects of reality must be described carefully, as it is possible to experience great difficulty to indicate some original modal functions of various life forms. It is obviously not difficult to understand the biotic functions of the marriage – after all, sexual interaction between husband and wife is founded in the biotic side of our existence.

But how could we understand the original biotic function in the state? To function originally in the biotic aspect requires the presence of genuine biotic subjectivity. How can this be ascribed to the state without falling for a mistaken biologicistic view of the state as a peculiarly biotic organism?!

To understand this problem we must remember that all life forms typically organize all human subject functions in the particular form of life under the guidance of a radical typical qualifying function. Only the indissoluble coherently distinctive nature of the two radical functions (foundational and qualifying/directive) of a form of life can guarantee its internal structural unity. The structural typical unity and identity of any form of life can only express typical functions in all aspects of reality in the entity structural manner in which the subject functions of all the members are bound together. It is only from this perspective that a justifiable understanding can be formed of e.g. the objective-biotic living space and the subjective-biotic living together of subjects and government in a state consociational bond within a delimited territory – indicating clearly the original biotic function of the state as a form of life. That is, the state has no biotic function apart from the citizens whose lives therein are bound together juridically in the typical way of the state.

These insights cohere with the distinction which we can draw between the *internal* and *external* coherence between a particular aspect and other aspects of reality. The internal coherence between aspects indicates the various analogies which we can distinguish and identify in the structure of an aspect. The external coherence only comes in view when we study the dimension of things (entity structures) and give attention to the way in which one or another entity qualified by a particular aspect functions in other aspects of reality.

This can be illustrated by the nature of any objective cultural thing. A work of art, qualified by the aesthetic aspect, has, apart from the analogies in the qualifying aesthetic aspect, also original concrete functions in the various non-aesthetic aspects of reality. The economic analogy in the structure of the aesthetic aspect can be indicated by the moment of aesthetic economy (guarding against aesthetic excesses). This economic analogy in the aesthetic aspect obviously differs from the original economic function of a work of art – evident in i.a. the price it can command in the market. In the same way we can distinguish between the semiotic (sign) analogy in the aesthetic aspect (aesthetic signification, significance and interpretation) and the original sign function of the work of art (the verbal sign or name we give it). The aesthetic sensitivity (psychic analogy in the aesthetic aspect) with which a work of art depicts, verbalizes or entones something aesthetically is distinct from the sensory perceptibility (original psychic function) of a work of art. The aesthetic effect (analogy of the physical cause-effect relation) of a work of art can be distinguished from the (enaptically encompassed) material from which it is made. In this way a complete analysis of the distinction between the internal and external coherence between the aesthetic aspect and

other aspects of reality is possible. A similar analysis is possible with regard to various life forms – as we shall shortly illustrate in terms of the example of the state and the institutional church.

The state exists as a unit amidst the multitude of citizens who are juridically ordered in the relation of government and subjects. The nature of the state territory, as a spatially delimited (cultural) area obviously indicates the spatial function of the state. The concrete existence of the state as an arrangement of life has a certain durability – not only in the organization of the sword power or function state buildings (an objective durability), but also in the continuous manner in which the citizenry of a state is juridically integrated in terms of their kinematic subject functions. Physical power forms the necessary foundation for the exercise of the typical sword power functions. (We have already referred to the state's biotic functioning). The feeling of solidarity among the citizens of a state rests on the structural unity of the state and illustrates the sensitive-psychic function of the state consociational bond.

Public opinion represents the manner in which the state functions in the logical aspect, while the organization of sword power (the foundational function of the state) indicates the historical function (also consider the history of a state).

The sign function of a state is evident not only in its name (verbal sign), but also in national symbols such as the national flag, anthem, emblems, and the significance of public holidays. Referring to a state as a consociational bond already indicates the specific sort of interaction (social aspect) taking place in a state – not forgetting inter-national interaction. The state household (including the various sources of state income and the budget with regard to expenditures) represents the original economic function of the state. The aesthetic aspect of the state is expressed in the beauty or ugliness, the stylish grace or lack thereof, with which the state meets its typical responsibilities. The function of the ethical aspect we can recognize in the greater or lesser degree of patriotism characteristic of the citizenry, while the function of faith is evident in the trust citizens place in the integrity of the government, or in the security all citizens have that the government is indeed governing in the common (juridical) interest. Certain typically religious activities are occasionally interwoven with state activities (e.g. the opening of parliament with prayer).

Note that the existence of a christian state is not subject only to the state's function in the aspect of faith, since only when the activities of government and subjects are obedient to the typical structural principle of the state as consociational bond, can there be a God-oriented positive expression of these principles – resulting in a christian state. Christianity does not ever mean sinlessness or perfection – a christian political understanding and practice can therefore never fall back on the Roman Catholic teaching of the "societas perfecta".

With regard to the church we must mention first of all that the institutional church finds expression in the unity of the local congregation – in contradiction to the Roman Catholic view which sees this unity primarily in a hierarchic totality consociational bond. While the institutional church is organized in local congregations, the church does not have an own territory, like the state. Every member of the congregation is personally bound to the faith authority of the church – wherever he may find itself.

Only on this basis are the many members of the institutional church bound together in a durable unity which continuous regardless of changes in membership. The powerful way in which members involve themselves in the church, identifying with the kingdom appeal of the ministry of the Word in the church does not only presume mature motivation and discernment among the members, but also refers to the covenantal, loving interaction in the congregation. This interaction should express a particular harmony which coheres with the way in which the congregational offerings are administered. Since the veil-order of the Old Testament is past, there are no longer grounds to cling to the giving of the tithe. All ten tenths of the Christian's income must be used (on all terrains of creation, according to their particular requirements) in the service of the kingdom.

The function of the institutional church in the sign aspect of reality is evident in the name used by a local congregation or a denomination, as well as in the various signs and symbols playing a role in the normal functioning of the congregation – e.g. baptism, the bread and wine used in the Eucharist, the cross, and so forth. The mutual love among members, practically expressed in the diaconate, which is responsible for charitable service, presupposes the common faithfulness to the confessional statements of the church.

When we consider the typical functioning of the institutional church as a christian faith consociational bond¹ in all the aspects of reality in this way, it is clear that we are not dealing with structural characteristics of the church as a form of life which are merely external or accidental, since these are normative entity structural conditions for the very existence of the church. Every attempt to identify a dialectically contrast between the eschatological nature of the new Israel and its creational kingdom calling, can cause the church to become a superficial, supernatural unstructured spirituality which devalues all human responsibility, since there is no space left for the bond of responsibility to normative structural principles.

1. That is, qualified by the aspect of faith and founded in the historical organization of the ministry of the Word and the sacraments.

Chapter 5

Education and Scientific Practice at University

20. The emergence of the university

If we look at the development of what has been called the university since 1200, it is soon clear that the university cannot be seen in isolation. Initially, the form which the university took was linked with the relatively undifferentiated society of the Middle Ages in which the church played a dominant role. This situation was partly responsible for the fact that the university of the Middle Ages was geared to establishing scientists as academic lecturers. Although there was an appreciation for the increase of literacy generally, it was still closely linked to the relatively undifferentiated structure of the society of the Middle Ages. The church was seen as the over-arching grace-institute, with the state as its serving subject. The rest of society appears undifferentiated as "society" – cf. the well-known (especially evident in theological writing) distinction between "church, state and society". The relatively undifferentiated nature of late medieval society is reflected in the meagre harvest of "faculties" which we find at the end of the 13th century: the propadeutic faculty of "free arts" (*artes liberales* – later named *facultas artium* or *philosophiae* – the origin of the present faculty of the arts); the theological faculty (*sacra pagina*); the faculty of law (which included both the so-called Roman world law and the church canonic law); and the medical faculty. During the 16th and 17th centuries this moderate differentiation served as basis for the justification of the "social service" of the university: the university provided preachers for the churches of most protestant countries, lawyers for the state and doctors for "society".

Besides the influence of the relatively undifferentiated Middle Age society, we must also focus our attention on the influence of the general process of technical and cultural disclosure. The limited, and often exclusive, availability of handwritten (or:hand copied) books led, under others, to colleges emerging at universities which had exclusivity because of their unique collection of books. In England this heritage from the Middle Ages had a durable influence – as is reflected in Oxford and Cambridge.

Can we still claim that these expressions (and countless others not mentioned) of universities through the centuries, really did have a common and underlying constant structural principle?

From the history of the Western university, the modern university has emerged as an institution in which structural continuity exists with the origin of the first university of the Middle Ages around the year 1200. Provisionally, we can link this structural continuity to the simultaneous presence of two particular facts:

- 1) The organization of the university into a specific societal institution;
- 2) The bringing together of teachers and students with the aim of carrying over scientific knowledge by way of scientific teaching (cf. Huizinga & De Rijk, 1974: 784). Although this provisional description is thoroughly dependent on the way in which scientific practice is typified, it is useful to point out something essential in the Western university.

It is useful to take account of the historical fact that the term "universitas" according to Huizinga & De Rijk, (1974: 784), did not refer to an institution where the whole of the sciences were lectured (*universitas scientiarum*), because it had a societal connotation ("een socioylogische betekenis"):

"het stond voor 'gezamentlijkheid', 'verbondenheid' en diende om allerlei collectiviteiten aan te duiden, of het nu ging om een stedelijke gemeente of een gilde, dan wel (zoals hier het geval is) een corporatie van leermeesters (*magistri*) en studenten (*scholares*), die zich aaneensloten tot onderlinge bescherming en om zich in rechte af te zetten tegen andere maatschappelijke verbanden, inclusief de wereldlijke en kerkelijke overheid".¹

Only after the emergence of modern humanism and the breakthrough of the reformation do we find a special striving to use only Latin at university. A result of this was that the term *universitas* was forced into the background because of the prominence of the term *academia*. The gain of this heritage is that we do not need to refer to the university only as a form of society where science is practised, because we can shortly describe the university as an academic consociational bond – in which science in teaching and research capacity is practised within the context of a particular organizational form (Faculties and Departments) in which the academic interaction between lecturers and students occurred. Venter points out the unity of the masters and students, which was known as a *studium*. A *studium generale* indicated a situation where masters in the *artes*, in canon law and in civil law were present (Venter, 1987:1). He even points out that what we understand under the term "university" today, look the most like *studium generale* externally. If we keep up the Middle Age use of these terms, it means that we must see the Lyceum of Aristotle as a university, because research and teaching in a

1. "It represented 'communal', 'connectedness' and served to designate various collectivities, whether it concerned a municipal community or a guild, or even (as in this case) a corporation of teachers (*magistri*) and students (*scholares*), who organized themselves in service of their reciprocal protection and with the aim to demarcate themselves rightfully from other societal institutions, including the worldly and church authorities."

variety of sciences had occurred (Venter, 1987:2). This academic nature of universities has a particular commonality or universality regardless of the variable ways in which specific universities express it in concrete organized form (consider the diverse ways in which universities' different faculties are organized).

If the critical question, where is the unique distinguishing characteristic of science found (cf. Strauss, 1980:1-8), is asked, we focus our attention on the following viewpoints.

21. The uniqueness of scientific thought

Common characteristics – like methodology, "verification", systematics, subject-object relation and abstraction – are not conclusive because all these characteristics represent similarities between scientific activities and non-scientific activities. If we do not define exactly what science/theory formation precisely involves, a description as follows does not really help us: "The practise of science is the cultivation of the process of knowing with basic characteristics like economical thought, logical systematic pattern of theoretical construction formation" (Venter, 1987:11). The cardinal question is what distinguishes science/theory formation from all non-scientific (non-theoretical) activities? Maybe the abacus with which most of us used to learn to count in primary school, is the best aid to explain the nature of scientific-theoretical thought.

Beforehand, we must say that we are dealing with scientific thought leading to scientific knowledge – and we said in Chapter 2 that the nature of thoughts is marked by man's ability to classify, i.e. to be able to divide up on the basis of similarities and differences which are identified. We identify and distinguish on the basis of similarities.¹

From this it should be clear that the mark "abstraction" itself is insufficiently precise to qualify as the distinguishing characteristic of science. All usual everyday concepts are based on abstraction: certain universal characteristics are elevated and combined in the unity of a concept (e.g. the concept human, tree, horse, motorcar, etc.). That is to say that the uniqueness of each individual human, tree, horse, or motorcar are ignored and only the universal characteristics of humans, trees, horses or motorcars are concentrated on. Although everyday concepts are based on abstraction, no one would claim that the mere formation of such concepts is sufficient for the justification of the uniqueness and distinctiveness of scientific concepts. What can we learn from the example of the abacus?

When we learn to calculate with the help of the abacus, we begin by involving different aspects of reality: we take into account the colour, the movement, the shape and the quantity of blocks on the abacus. Gradually we

1. We have already indicated that abstraction and analysis are actually exchangeable terms.

have to ignore the colour, movement and shape, and concentrate on the quantity, i.e. we must elevate the numerical aspect in order to simultaneously ignore the non-numerical aspects, (namely, the spatial, the kinematic and the physical aspects). With that we have moved to theoretical thought – i.e. we abstracted certain aspects of reality. Note – abstraction as such is useless here because we have utilized a closer precisioning: *aspect abstraction* (modal abstraction). By naming modal abstraction the unique distinguishing feature of scientific thought, we have in no way built in a limit in terms of concrete things of our everyday life, because the different things of reality (which we can abstract modally), still acts as the gateway to our experience of the different aspects in reality. Therefore we can never say that a special science (i.e. a theoretical discipline which is delimited by a single aspect of reality) is restricted to a “section” of reality. The full concrete reality of our everyday life experience falls within the field of study of every special science – with this single qualification: seen from its modally-abstracted angle.

The well-known demands of prediction and explanation is linked by Staffleu with the coherence between the logical-analytical aspect and the foundational meaning of the kinematic and physical aspects of reality:

“Prediction is the first and most obvious aim of any theory. This is a consequence of the deductive character of a theory, i.e., its kinematic foundation, deduction being the logical movement from one statement to another. We shall characterize prediction to be ‘kinematic’ function of a theory, to be distinguished from its ‘physical’ function, which is to explain. Explanation is tied to a cause-effect relation of some kind” (1987:31).

Given the factual illustration regarding the distinguishing nature of scientific practice, it goes without saying that more attention must be given to the other facets of the contemporary development in scientific theory if we want to understand the particular nature of the university.

The science which is practised at university stands within the context of particular special scientific traditions. Only compare the influential view of T.S. Kuhn about “paradigms” or the “disciplinary matrix” which can be dominant in different disciplines. These theoretical thought frameworks do not float in the air but are based on deeper central convictions which appeal to a central vision concerning the nature of man, his place in reality and history, and also to the meaning of scientific practice (cf. the related views of Popper, Kuhn, Polanyi, Feyerabend and Stegmüller). We could refer to these central convictions as the “ultimate commitment” of science or of the institution or discipline because it is also directive for the practice of science at university. The encompassment of scientific practice in such a central vision shows the direction choice which is unavoidably present in all science activities. The distinction in Chapter 1 between structure and direction gives us a perspective with which we can understand the most fundamental nature and functioning of the university as academic consociational life-form.

Actually, precisely the question about the relationship between structure and direction reveals the deepest point of divergence between life- and worldview orientations as such. The standard criticism against the university, viz. that it exists as an ivory tower in the midst of social needs and demands, evaluates the university precisely from a peculiar central direction perspective – namely a perspective which does not measure the university in its own right because it is the victim of a narrow utilitarianism which evaluates the university only in terms of its serviceability to external practical societal goals. In order to confront this complaint – i.a. through the nature of a university’s mission statement – it must be done on the same directional level.

What we are trying to say here is that the justification of the intrinsic value and relative merit of being a university already requires a central direction choice. Therefore the appeal for the continuation of the university as academic consociational life-form flows from a vision of society which gives recognition to diverse and differently natured life forms in human society which each exist in its own right, no matter how they may be linked. The “use” of being a university for society lies precisely in the fact that it must be obedient to its structural calling.

21.1 The uniqueness of the university

In order to see the relative durability and identity of concrete-existing universities in the light of the normative structural principle of the university, requires further justification of the structural typicality of the university as life form.

The organization of the university (foundation) and the nature of the university as an *academic* institution (qualification) determines the unique way in which the university as life form functions in other aspects of reality. Venter suggests the following description of the university:

“The university is a community of people in which people interested in science (as a supporting skill to gain wisdom in career and life) through participation in the scientific process, under the guidance of advanced scientists, are introduced in a particular tradition regarding the scientific cultivation of man” (1987:15).

At this point we must refer back to the distinction between the internal and the external coherence between the different aspects of reality where we stopped at the end of the previous Chapter.

The qualifying theoretical-analytical function of the university has both an internal and an external coherence (interweaving) with the different facets of human society. The academic mission (task and credo formulation) of the university, reflects, for example, the external coherence between the qualifying (disclosed) logical function of the university and its faith aspect. This regards, in other words, the concrete function of the university in its faith aspect of reality. Just as little as the confession of faith of a political party makes it a church, does the academic confession of faith of a university

makes it a church. In distinction from this function of the university in the faith aspect of reality (external coherence) the theoretical-logical aspect also has an inner coherence with the faith aspect, particularly in the anticipatory analogy of logical certainty/trust – sometimes with regard to scientific practice also designated as the intellectual credibility of science (inner coherence) (cf. Van Huysteen, 1986:4,5,48,129).

The unavoidable structural functioning of the university in the faith aspect of reality illuminates the necessity for mission formulation. If it does not occur explicitly, the university is still misdirected through some or other implicit mission choice, which in practice, often boils down to disintegration in the scientific practice of the university to a greater or lesser extent. Before we go into this, we will concentrate on a few other functions of reality in which the university functions as life form.

Every university reflects a particular university ethos. Often it reflects an unwritten common task-orientation and relation of mutual trust which exists between colleagues and students (the function of the university in the ethical aspect, or, in other words, the external coherence between the analytical and ethical aspects of reality) – but without it there can be no mention of a healthy intellectual integrity in a university (the internal coherence between the two aspects just mentioned).

Every university will unavoidably, i.e. according to its cosmically multifaceted structural principle, have a function in the juridical aspect of reality. Since the Van Wyk de Vries-Report in the seventies, the following false contradiction lives in the South African reflection on the nature of the university, viz. that the university must be seen as a legal entity which is a complete state creation (through the relevant private law) and that it must be seen simultaneously as an autonomous societal entity which exists independently of the state. The concrete functioning of a university in the juridical aspect of reality however, has many sides, including an internal and external civil juridical side.

The internal law of the university as life form appeals to its academic freedom. This academic freedom locks in the competence of each university to determine its character. This "character determination" does not only include the choice of a particular style of scientific practice, but also explicitly includes a particular central *direction choice* of a university.¹

The recognition of the academic consociational nature of a university implies at the same time that inherent structural borders (limits of competence) exist for the academic activities of the university as institution: the university is called to the formation of academic power and cannot act as an economic institution, political action or religious grouping at the same time – however much each of these expressions of life can be reflected upon academically. According to its nature, the university must bind itself to the characteristic (–sphere sovereign) limits which the deepened (disclosed) theoretical-logical qualification thereof sets and which should express itself in its typical teaching and research activities.

1. The underlying distinction between *structure* and *direction* that this concerns has been discussed several times already through the course of this book.

Once a university has exercised a particular choice of direction which is faithful to the internal structural principle of the university, it deserves legal recognition and protection – which is referred to as the external civil-legal side of a university. Private law also belongs to this external civil legal side of a university through which the state grants lawful recognition to a particular university. This recognition does not indicate a second type of entity – a legal entity, which is distinguished from the university as academic institution, because it only points to the external civil-legal function of one and the same entity, viz. the university as academic institution.

We must also say something about the relationship between culture and university. The view exists that the transcultural value of knowledge – not being culturally relative – means that a university in its knowledge expansion and distribution must act "culturally free". Besides the relationship between the university and the nation, the university also has a concrete function as a life form in the cultural-historical aspect of reality and it cannot but practise science within the context of an own particular university-academic cultural style formation! Cultural style formation appeals to specific ways of doing which are typically distinguishable in all standard Western universities and which are expressed in the academic organization at different universities – a difference which is remarkable in South Africa if Afrikaans and English campuses are compared. The supposed directedness of science and university endeavours on universal structures/laws (as well as the transcultural appeal of the knowledge which is acquired there) does not mean that every existing university cannot continue this in a particular way – two universities are therefore never identical.

21.2 Structural typicality and university aims

It is very important to realize that the structural nature of a life form like the university cannot be characterized or defined in terms of particular aims or goals. In order to strive for a certain goal, the particular life form must already have a typical structural nature, because only the recognition of this foundational structural principle offers a criterion which puts us in a position to distinguish typical (university) aims from non-typical (outer-university) aims! All aims presume the structural-typical principles of the University as life form which must found and delimit the nature of each aim!

The structural principle of the university requires from every life form which wants to qualify as such,¹ that concrete expression must be given to the fundamental normative structure of being a university. Every already existing university is a concrete historical answer to the normative requirements encapsulated in the structural principle of the university as consociational life

1. A Teachers' Training College and a Technicon are respectively focused educationally-professionally and educationally-technically, and as such lack the essential, scientifically-deepening, *research* character of the university. These distinctions does not restrict the *scope* of scientific investigation, since the University is competent as an academic institution to reflect academically on literally everything in reality – the encyclopedia of science reaches as wide as all of creation.

form – no matter how this expression falls short of the norms of being a university.

Every justified university strategy of an existing university can therefore only be seen as a purposeful attempt from within the accepted fundamental direction of being a university to come to a better (and more normatively obedient) structural organization of the university as life form in the unique historical circumstances in which the university might find itself.

These insights imply that we must also question classical organizational theory, which, linked with general systems theory, has particularly influenced business economics and industrial sociology. Besides the problematic way in which the whole/part scheme must be brought into relation with the means/ends scheme, the most fundamental problem with some of these directions is that they depress the unique nature of the university by making its functional meaning serviceable to the structural demands of the "societal whole" – compare the theory of instrumental organizations which can be conveniently used to see the university as a means in service of non-university aims (compare Luhman, 1973:55ff.). This approach cannot take account of the sovereign unique nature of the university as life form and in principle runs into a complete leveling of the typical academically-marked structural principle of the university. For the education of mature members of society an insight in the nature of the limits of competence of the different societal forms is essential. The nature and structure of education itself requires illumination.

22. The structure of education

In the first place the disclosure of the normative structure of man (cf. Chapter 2) shows the deepened (anticipating) way which man functions subjectively in the different normative aspects of reality.

A disclosed normative structure does not only indicate the open nature of the different normative subject functions of the human body, but over and above that the linked diversity of life forms in which the disclosed man must live himself out, as well as on the variety of objective cultural goods in which man finds himself in the variety of life relationships.

A disclosed legal awareness cannot, for example, be expressed without a state which maintains balance and harmony in the multiplicity of legal interests as a public legal consociation (amongst others under the guidance of the deepened principles justice) having crystallized in its territory. Such a political order requires all kinds of objective cultural things (like weapons, administrative buildings, courts, etc.). The same can be said about every other life institution, life form and cultural product.

The deepening of human normative structures, which is indissolubly interwoven with an educational process in which man is brought to mature disclosure, is therefore fundamentally a total, religiously-determined process of

development and education to an encompassing maturity in all expressions of life, sectors of life and the use of cultural goods.

Education possesses a differentiated (5) normative structural (3,4) character, which due to its normative (1) variation richness (2) is itself unqualified (3). We discuss the indicated central terms shortly in numerical order.

- (1) The term *normative* refers *positively*, as we have already seen, to the freedom of positive expression which man has as the one who forms culture, and *negatively* on the transgression of all principles which exist on the norm side of the post-psychic aspects and which are given positive form in an antinormative sense as a result of the fall.
- (2) The expression *variation richness* indicates the multiplicity of normative aspects in which man can function – we have seen that one moment man can be analytically occupied with a scientific problem, then be with a transgressor who must be punished and after that interact socially with his friends.
- (3) The expression *normative structure* refers to the fourth bodily structure of man which marks (qualifies) all bodily substructures.
- (4) Precisely because education appeals to the characteristic normative structure of man, and because this normative structure can never be enclosed in one specific aspect – that is to say can never be qualified by a specific aspect or be completely taken up in it – education itself is unqualified. Imagine that education was qualified by the social aspect, then it would mean that only social education would be possible – which implies that man could never undergo any economic, juridical, ethical or religious education. Education appeals to each of these normative possibilities of man and cannot therefore, just as little as the normative structure, be one-sidedly modally qualified.

The term *differentiated* places further accent on the unqualified nature of education, since, precisely because education itself is unqualified, it must possess a modally-differentiated realization structure.

This general anthropological insight into the nature of education can be made fruitful on different sides and in different directions. We refer firstly (a) to the coherence of the above perspective with the nature of man's emotional disclosure and secondly (b) to the nature of education in the context of an undifferentiated society.

(a) By way of man's sensory equipment, he is able to orientate himself in the surrounding world. Our senses enable us to be aware of our environment immediately: we see the movement of the dove that flies from the branch, we hear the roar of an approaching vehicle, we feel biting cold in the winter wind and we taste salt water when we swim in the sea. Although we can focus our attention on specific things in our sensory environment, the basic functioning of our sensory orientation is free from reasonable deliberation.

On the basis of this sensory equipment, we are capable of meaningfully slotting into the different normative dimensions of our socially differentiated existence. We read the result of an examination which fills us with happiness or sorrow; we hear of a planned social happening and we feel excited about everything we can possibly experience and enjoy, etc.

De Graaff (1980) even distinguishes between our feelings and emotions. According to him, all the different types of feelings reflect an own distinctiveness, extent, durability, intensity and vitality which is simultaneously open in terms of the normative subject functions of man. He believes that our feeling reactions are a direct response to that which we observed sensorially. In our awareness of something we experience pleasure or discomfort, we like it or disapprove, experience acceptance or rejection and even the good and bad. That is why he thinks that to feel is indissolubly linked to appreciation. When we taste something bitter, we feel rejected, when we enjoy a nice warm bath, we feel relaxed, etc. In distinction from our feelings, he believes that emotions show the total bodily agitation which we experience as our reactions to a particular situation: "Emotions are immediate, spontaneous, overwhelming, intense reactions that deeply affect our entire physical and organic functioning. They mobilize the whole person and make us pull away from or move toward someone or something. In our emotions we live out here and now and surrender bodily to how we feel in a particular situation".

Emotional openness is linked closely by De Graaff with the way in which we react in emotional disclosure within the context of a differentiated diversity of normatively-marked societal contexts. The joy which we experience is not, for instance, purely psychic-sensitive by nature. It is the joy with which we approach an old friend at a meeting (social joy), or it is the joy which we experience when we listen to a good musical performance (aesthetic joy), etc. Similarly the anger we experience is not just a psychic phenomenon because it is always about the feeling of injustice of someone who is wronged, or the bodily scar which someone inflicted on you purposefully, etc. That these different emotional reactions are always imbedded in the normatively-differentiated human reality is evident in our inability to react appropriately emotionally. Someone who laughs in reaction to the serious warning of a friend is considered to be irresponsible; someone who bursts into tears when hearing a good joke is considered socially abnormal, etc. In reality it is a fundamental requirement for every person who is educated to differentiated maturity, to possess the full spectrum of emotional reactions. Actually, it is often a first sign of emotional-psychic disturbance if a person is no longer able to experience the full spectrum of human emotions. Each person's emotional health is not only dependent on the possibility of the emotional spectrum of fury, anger, offense, feeling touched, feeling neutral, feeling excited, experiencing happiness, reacting positively exultant and even having an ecstatic experience, but also to the active living out of all these "escape valves". Disclosed maturity cannot do otherwise but to lean on and be sup-

ported by a healthy emotional disclosure and the appropriate emotional reactions which are coupled to it.

(b) The description of education which we have given above, did not describe the moment of disclosure as a constitutive element of education. This is so because a typification of education must firstly be able to indicate both disclosed and closed education. If education brings no disclosure about in a truly differentiated society (no expression of life is deepened, the life forms are not differentiated and the cultural possession is still undifferentiated), and if our description of education contains disclosure as a constitutive building element, it would in principle be impossible to speak of primitive education.

In the given description of the structure of education we stressed that which marks (qualifies) education. The entity structure of education also contains a foundational function, namely the historical function. Through education, the educator gains a certain educational power over the one being educated – a power coherent with educational competence as it is expressed in the various life forms. Still, this educational power and competence is aimed at what we indicated above as the encompassing, unqualified character of all education.

Terminologically, it is essential that we notice the difference between *forming* and *disclosure*. The incredible influence of the Greek view of education as forming is conquered by this description. The entire Greek culture is cut through by the consequences of the idolatrous religious ground motive of form and matter.

In his famous dialogue *Politeia*, Plato deepens the expression of the form-matter motive by giving a specific totality character to his ideal state with its three estates (philosopher, soldier, worker) – the formation of the Greek into a mature state citizen includes all spheres of life. Besides the fact that this ideal state of Plato has no inner borders (grounded in the creational order which guarantees the sovereignty in own sphere of every life form), education is also reduced in its qualification to the cultural-historical aspect in which the relation between formative control and a given material is original: people merely become material which the state must form into mature state citizens.

Education does bring certain formative skills to man – firstly in a truly cultural-historical sense because man creationally has a cultural task: he must be able to fill, subject and control the earth through his formative power. These controlling formative possibilities will therefore stand central in all concrete subject-object relations in which a mature person eventually finds himself: in modern Western society he must have a reading (lingual subject-object relation) skill, be able to get about in a motor car, be able to handle a variety of eating utensils, be able to clothe himself decently, be able to use public facilities in a civilized manner, and so forth. He must be educated so that he

skillfully handles all normal objects of use (objective cultural things) with which the educated person works daily. Does this mean that education is formative?

Not at all, because the conveyance of certain style figures with regard to objects of use (that is formative skills) does not have to be a formative activity itself, unless education is (wrongfully) per definition equated with formation.

In this context we must point out in closing that education, precisely because of its differentiated mark, can occur within differently qualified life forms. Besides family education, education also occurs, in the encompassing sense of the word in the church. Just as family education appeals to all facets of the education situation and not just to the ethical aspect as qualifying function of the family, so the education situation in the church appeals to the full spectrum of the creational aspects, i.a. because the preaching itself effects a cosmically-wide appeal on the listener to come to obedience to God in all sectors of life.

Our last stretch of thought in this Chapter is given to a few matters which in our opinion are of fundamental importance for philosophical education of every philosophically interested reader. Three matters are discussed: the relation between analogy and metaphor; the distinction between concept and idea; and the nature of nominalism (to which we only referred in passing in Chapter 4) as well as the influence of nominalism on the development of modern philosophy.

23. A few closing philosophical distinctions and insights

23.1. Analogy and Metaphor

Similarities and differences exist between things (if differences were absent we would not have to deal with similarity but identity – regarding the same entity). There are also differences and similarities between the characteristics of a particular entity.

The remarkable figure which since Greek philosophy captured the attention of thinkers, regards the following situation: two entities or two characteristics exhibit a similarity with regard to the way in which they differ (alternatively: they differ with regard to the way in which they are similar!). Think, for example, of the characteristics spatiality and conviviality. Differences exist between the spatial aspect and the social aspect of reality. These differences can never dissolve the coherence between both aspects. This is evident in the difference between these two aspects as it reveals itself in the similarity between them. Friends can only interact convivially because they are socially close to each other – large age or social status differences usually hamper social interaction because the social distances between people are too great and distancing takes place quickly. The size of the social distance which is at issue here reminds us of our awareness of spatial extension, even while no-one would confuse the two – two people who are socially far apart can on occasion – that is spatially seen – be right next to each other (think of the

President and his bodyguard). Without a grasp of *spatial extension* (distance) we will not be able to form a concept of *social distance*. Exactly in the moment of similarity of “distance” the difference comes to the fore: *spatial distance* is different to *social distance*!

This given, in which the difference between two aspects (modalities) shows itself in the moment of similarity, we have identified as a modal analogy.¹ The qualification “modal” indicates that there are also other kinds of analogical figures. There also exist differences which show themselves in moments of similarity between different entities (such as animals, people, furniture, and so forth). Here we can also speak of analogies – entity-analogies. Such analogies between entities are commonly referred to as *metaphors*. Think of such well-known expressions as “the lion of Western Transvaal” (Genl De La Rey), or of the little child who refers to the joint of his finger as the finger’s “elbow”.

23.2 Concept and idea / analogy and metaphor

The distinction between (modal) analogy and metaphor (entity analogy) – which is of great importance to theology – is deepened when it is connected with the perspective given by the distinction between concept and idea. If we concentrate on the fundamental difference between the dimension of aspects (modalities) and the dimension of entities, it seems that the terms which appeal to the original meaning of a certain aspect² can be used in two different ways: *conceptually* and by the use of *ideas* (“*idee-matig*”).

- (a) A conceptual use regards those instances where the particular terms (or their analogical contexts) are applied within the limits of a particular modal aspect, e.g. when numerical terms are used to indicate numerical relations (with the help of computations like addition, subtraction, etc.), or when spatial terms are used to describe spatial figures (one or more dimensional), or when kinematic terms are used to describe the relative movement of a body, or when physical terms are used to typify the nature of changes which occur in a physical system.
- (b) An idea-use (“*idee-matige gebruik*”) use of modal terms occurs when the particular term is used to refer to data which transcend the limits of that particular aspect. In this sense an idea is a genuine limiting concept which, on the one hand referring foundationally to the original modal meaning of the aspect from which the term comes, but on the other hand also refers to that which transcends the limits of the particular aspect but nonetheless can only be indicated with the help of this term.

1. In Chapter 3 we explained this distinction with reference to the difference between physical space and the original character of space.
2. As we have seen in Chapter 3 – e.g. unity and multiplicity – numerical aspect; coherence/extension/whole-part – spatial aspect; invariance/constancy/continuity – kinematic aspect; dynamic/change/causality – physical aspect; and so forth.

By returning again to the school example of a chair, we can explain the distinction between concept and idea better.

We saw that a normal lounge chair functions in reality in a concrete way. If we should now state that such a chair had four legs, we notice only the way in which this chair functions within the limits of the numerical aspect. Even if we ignore the chair's concrete entity nature, and abstracted the numerical aspect theoretically by concentrating on the modal nature of numerical relations (like the question about the nature of natural numbers and calculations like addition, multiplication, etc., which can be defined therefore), our attention remains focussed on data found within the limits of the numerical aspect thus giving us conceptual access). In other words: the numerical term which we use is not applied to refer to the complete reality of the chair – it refers only to the way in which the chair functions in ONE aspect of reality (distinguished from other aspects).

Is it possible to say something about the chair which applies to ALL its facets (aspects) from the gateway of the numerical aspect? It is: "this chair is unique – it has individuality". Sometimes we refer to the uniqueness of something by saying it is something quite "apart"/"distinct". These terms undoubtedly make use of our numerical awareness of distinctness, although it refers to the total existence of the chair and not just to its numerical aspect. The chair is really entirely unique in ALL its aspects! The terms *uniqueness* and *individuality* reveal an idea-use of the numerical terms.

It is not even always necessary to implement different terms if we want to come to an idea-use of numerical notions. Think only of the church confession of the divine Tri-unity – where we use the numerical term *unit* in an idea context. It is notable that our normal language often makes use of distinguishing terms when it comes to an idea usage. Compare the following examples: in a conceptual context we usually speak of unity and multiplicity – ideally we prefer the expression: unity and diversity (e.g. as applicable to creational variety); conceptually we speak of forming (a term which comes from the historical aspect) – within an idea-context we (and the Bible) speak of creation; conceptually we speak of endlessness – within an idea-context of infinity; etc.

When we speak conceptually about the spatial aspect of the lounge chair we can refer for e.g. to its size (length, breadth and height). The whole-part relation which appears originally in the spatial aspect can also be within an idea-context used to refer to more than just the spatial aspect of the chair – e.g. when we speak of the chair as a totality (whole). In distinction of the conceptual use of the kinematic term constancy (the relative-constant speed at which every physical entity moves), an idea-use of the kinematic gateway makes it possible for us to take account of the relative identity (durability) of the chair as chair – in the midst of changes and even aging we still experience the chair as the same chair. This identity idea uses the kinematic

gateway, but it does not only refer to the kinematic aspect of the chair – the chair remains identical with itself in the fullness of its existence (we therefore understand all changes as changes to the same chair!).

In Van Riessen we can discuss the way in which the first four aspects enable us to form ideas about all of creation in the following way:

- (i) Everything is unique;
- (ii) Everything coheres;
- (iii) Everything is constant; and
- (iv) Everything still changes.

Idea statements like these do not cancel or oppose each other – rather they presume and deepen each other.

There are countless examples of entity analogies which can be used either conceptually or ideally. Many special sciences develop some or other theory in which a particular metaphor plays a key role (conceptual usage). (Think, for example, of the strong influence of the mentioned drama-metaphor in sociology where roles are spoken of fairly generally.) Naturally it also happens that a particular metaphor is over-extended and is actually elevated in a subject science to a fundamental explanatory idea for all of reality as it is studied by that particular discipline (Think, for example, of the so-called organicism in H. Spencer's sociology.)

Luckily, legitimate idea-uses of metaphors exist – without that we would have to go without the manner of speech of the Bible! Think of the key meaning of the idea-use of the following two metaphors about God in Biblical revelation: God as Father and God as King. The concrete faith language of the Bible uses modal terms ideally in an implicit way without any problems when God is spoken of: cf. expressions like the Lord our God is an only Lord (idea-use of a numerical term); God is omnipresent (idea-use of the spatial term); I am who I am (idea-use of the kinematic meaning of constancy); God deals with man in a dynamic way (cf. Christ's remark: My Father works until now and so do I and transport all of creation to the Sabbath rest which remains for the people of God (idea-use of physical terms)); God is life (a biotic term); God is almighty (a historical term); and so on.

The central problem of dialectic theology and negative theology is that it often attempts to use terms in an idea-context and simultaneously to depreciate or negate the sphere (aspect) to which it originally appeals. In negative theology, where it is stressed that we can say nothing positive about God, but can only say what God is NOT, we find many examples of the dialectic negation of the original meaning of terms which are eventually used to word a minimum of positive remarks about God (even if it is negated directly afterwards).

Comment: In passing we mention that negative theology reaches back to Plato's dialogue Parmenides which was continued in the Middle Ages and thereafter under the influence of Pseudo-Dionysius the Aeropagite. These problems return in their own way in the thought of Derrida and so-called deconstructionism. Cf. Visagie, 1985:59ff.

The opposite of this approach is presented by the medieval *analogia entis* doctrine which in turn attempts to apply the structure of a (modal or entity) analogy, conceptually used, to the relation between God and creation.

We focus our attention on the relation of these distinctions for a more meaningful understanding of the fundamental inclination in modern philosophy – and typify at the same time, in coherence with it, the nature of two well-known -isms in the house of science: rationalism and irrationalism.

23.3 Nominalism

Thanks to the irreducibility of the numerical and spatial aspects it is also impossible to reduce universality (a term with a spatial origin) and individuality (a term with a numerical origin) to each other. The universal only gives access to conceptual knowledge, while the unique-individual can only be approached with the aid of limiting concepts (ideas). Rationalism always absolutizes conceptual knowledge at the cost of idea-knowledge, while irrationalism inversely absolutizes idea-knowledge at the expense of conceptual knowledge.

We have already met Plato's speculative-metaphysical justification of the universal constancy of God's law (order) for creation (Plato's ideas). Aristotle deviated from Plato's view by moving the emphasis from the order FOR to the orderliness OF. It is known as the so-called secondary substance. This view survived into the Middle Ages – realism retained a threefold existence of universalia: *ante rem* (before the creation as creational ideas in God's Spirit – influence of Plato); *in re* (as the immanent substantial forms of things – influence of Aristotle) and *post rem* (afterwards as universal concepts in the human spirit – influence of both).

Nominalism drew a line through the first two – outside the human spirit no universality exists – only the concepts in the human spirit possess universality. Outside the human spirit concrete-individual things exist exclusively. This pure individuality is devoid of all universality – it is divorced from the universal orderliness of creatures, and from the universal order which God established as determining and limiting law. The universal concepts or names in the human spirit only substitutively refer to the unencompassable purely individual things outside the human spirit – they are only *nomina* for the truly individually-existing things. Thence the indication *nominalism*.

Is nominalism rationalistic or irrationalistic? The answer sounds almost paradoxical: it is both! With regard to the universal concepts/names in the

human spirit, nominalism is rationalistic and with regard to purely individual things outside the human spirit, nominalism is irrationalistic.

23.4 The Path of Development of Humanistic thought

By the 15th century after Christ, modern nominalism had rid itself from the faith in a God-given creational order.¹ If creatures have no universal side (no orderliness), then it is obvious that it would be difficult to cling to a universally determining and limited (creational) law. Stripped of all orderedness all that remains is a chaotic and structureless multiplicity of things in their concrete individuality.

The lack of order-determination which was created by this, is "fruitfully" grasped by the rationalistic tendencies of modern humanistic philosophy. Immanuel Kant would finally draw the extreme rationalistic consequence of nominalism: if no (God-given) order for or creational orderliness of things exist outside the human spirit, then the human mind must take this vacant position! Subsequently it is not at all surprising that Kant teaches that the human mind is actually the a priori -formal law-giver of nature: "the mind does not create its laws (a priori) from nature, but prescribes them to nature" (Kant, 1783-II, par.36; CF.Kant, 1787-B:163).

The irrationalistic side of nominalism offers an equally "fruitful" breeding ground. Linked to it, we often see the rise of all the irrationalistic tendencies of modern philosophy; the later development of the post-Kantian freedom idealism (in which the ideology of the unique ethnic spirit of every trans-individual nation organism appears – followed by Nazism), the emergence of existential philosophy, pragmatism, personalism, neo-Marxism (except Habermas), historicism and the existential-phenomenological movement – in which all honour is given to the unique-individual ("the contingent").

1. Even in theological circles the tendency still exists to delimit God's creation to the creation of individual creatures – without acknowledging in any way the universal creational law instituted by God, or the universal orderliness by means of which creatures express their subjection to the law.

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