

# ANAKAINOSIS

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## Editorial: Creation

A basic category in reformational thinking, as in all Christian reflection, is that of creation. However, it is peculiarly prominent in the Calvinistic tradition, out of which reformational scholarship grows, and that for two reasons: because creation is the basic religious orientation point in terms of which both sin and salvation are understood in Calvinism (sin as violence to God's creational intent and salvation as return to that creational intent) and because the whole range of man's life before the face of God is seen as creational, specifically including the activities and structures of man's societal and cultural life. Since both these points are somewhat unusual in the context of Christian thought at large, the use of the word "creation" by a reformational scholar is apt to be misunderstood by his readers or hearers, and requires some elucidations.

The crucial point to make about creation in the Calvinistic-reformational sense is that it is defined in terms of law. Creation is a matter of God the Sovereign laying down the law and by that very act calling creatures into existence to respond to that law. This illumines both the significance of creation with reference to sin and salvation, and the socio-cultural scope of creation. On the one hand, sin is a breaking of the creational law (or "ordinance," "norm," "decree") and salvation a restoration of obedience to that law. On the other hand, God lays down his laws for every department of our experience--not only of "nature" but also of culture and society. Consequently everything across the board is creational, and thus susceptible of both sinful perversion and gracious restitution--including personal relationships, bodily functions, societal institutions, cultural activities, intellectual operations and so on. All these can be said to belong to creation, once we understand this in terms of creation ordinances. In this way the link is forged between the religious intuition of Calvinism (salvation as re-creation, law as a positive category) and the wide field of creational phenomena which it is the task of philosophy and the special academic disciplines to investigate and describe. (A.W.)

# Evolution and the Biotic Aspect of Reality

by Dr. Magnus Verbrugge

## I. The goal of living beings

The question: "What makes a living being carry on its function?" has occupied philosophers throughout recorded history. Aristotle spoke of teleology, the order of essential forms in the scheme of...ends and means, in an attempt to explain the fact that every living organism strives toward a goal--telos.<sup>1</sup> The fertilized eggcell begins to divide and differentiate. Gradually it realizes its potential: a mature being with all its vital functions. It maintains its individual existence and by means of reproduction also that of its species. Ultimately it ages and dies.

Hans Driesch revived the concept of teleology under the name of entelechy. He made the living (biotic) aspect into a supra-individual and independent substance<sup>2</sup> that was to direct the vital processes of physico-chemical qualification. Driesch could show experimentally that vital processes differ in kind from chemical reactions, but he failed to show how his entelechy could influence these chemical processes. Today his neo-vitalism is largely rejected and forgotten in biology and the mechanists carry the day.

Charles Darwin formulated the theory of the evolution of species. It has been modified in order to adapt it to the new bio-chemical and biological information but is still seen by nearly all practising biologists as valid.

Evolution as a theory has many advantages. It is simple, consistent and elegant. All data accumulated by the special sciences from mathematics to sociology can be neatly fitted into a package with the logical sequences of physical cause and effect. Thus a picture is painted of the cosmos that is consistent throughout. In its simplicity it is easy to understand when explained to non-scientists and children and for that reason it has great appeal to scientists and the general public alike.

Evolutionists rejected the metaphysical imagery of entelechy, an immaterial force that could influence material processes. They did not believe in life as a substance. Every living being is a "system," programmed at conception with a code for all future processes in its DNA: "The completely individualistic and yet also species-specific DNA program of every zygote is the program for the behavior computer of this individual."<sup>3</sup>

Evolution of one species from another occurs through infinitely small and random changes in the DNA material, the genes in the chromosomes during the process of cell division preceding fertilization. When the "computer" has been altered enough to change the behavioral program of this individual, a mutation has occurred. Whether that change will result in the early death of this individual or in a superior genetic make-up that will be transmitted to its offspring is left to chance. If superior,

the renewed genetic program will make its proud possessor better fitted to adapt himself to his environment. He will succeed where lesser endowed "old Types" succumb. The fittest survive through "natural" selection.

This picture of the living being has indeed the advantage of simplicity. But that is also its weakness. Space does not permit an exposition of the difficulties evolutionists have in proving the various aspects of their theory. Instead, we will try to indicate the theoretical basis for the lack of evidence in support of evolution to date.

## II. The Physical Foundation of the Living Being

A living being consists of material compounds with a physical qualification. There is no evidence of "living matter"--biomolecules.<sup>4</sup> All molecules and atoms in the cell follow the laws of physics and chemistry. Hence the structure of the cell is founded in the physical aspect.

Naive experience tells even the most doctrinaire materialist that there is a difference between a living being and inanimate matter. His observations and "common sense" tell him this. But theoretically he professes to only know physical force or energy. Only physical properties can be weighed and measured and that is how he sets up his experiments.

Every individual whole, no matter how complicated its encaptic individuality structure, including man, is founded in the physical mode of experience. Hence it is open to physical science for investigation. The physical scientist unlocks--opens up--the physical aspect in which the investigated whole functions as a subject by making it into the object of his scientific examination. The experiment is led by the analytical function of his thought: it is qualified by the logical aspect. But his technical apparatus is founded in the physical aspect.<sup>5</sup>

Physical energy can be measured from its effects, even though no one knows what it is. For that reason it is easy to believe that it is an independent force that exists "by itself." In this way one can make it into a metaphysical substance instead of a mode of experiencing reality. The same can be done with "vital energy," but this energy can not be measured with physical instruments. The latter can only unlock the functions of physical modality. For this reason the materialist concludes that there is nothing but matter and physical energy: "An organism, a living system is any system which can use the matter and energy of its environment to decrease its entropy by development, growth, "spontaneous" activity and self-reproduction. So far, only the long and exacting process of evolution has been able to produce such machines."<sup>6</sup> Yet, this theoretical mechanistic approach does not entirely satisfy the more profound thinkers among evolutionists.

## The Biotic Qualification of Living Beings

"The living individuality structure of the cell is indeed living in all its inner articulations."<sup>7</sup> Thus the "parts" of the cell consist of lifeless matter and its structure contains no dead components according to Dooyeweerd. The cell is the "whole" and its molecules its "parts." The whole is an individual real thing as are its molecules. But the cell lives in its entire structure and the molecules are inanimate in their structure. Hence Dooyeweerd's strict distinction between the whole and its parts: The whole is not the same as the sum of its parts. And at the same time he distinguishes the real whole and its individuality structure. The whole we can observe in naive experience. The structure we abstract in our theoretical analysis.

Atoms and molecules do not behave as an aggregate of inanimate matter in a living organism. They do not revert to their lowest possible state of usable energy (the second law of thermodynamics). A living organism is an open system; "without a continual energy supply the organism dies."<sup>8</sup> So what can live can also die. No particle of inanimate matter has such properties. Life is a phenomenon we experience as a unique manner of being in certain objects. We cannot define it logically, nor can we grasp how a living organism can direct the chemical processes of its molecules, individual wholes themselves, qualified by the physical aspect and encaptically bound by the organism.

We do not create aspects in our theoretical thought. Rather, the aspects form the framework that makes thinking possible. R.M. Chute senses some of this when he notes that man "is composed of just three basic particles (protons, neutrons and electrons)...at least this is one way of looking at the human organism...."<sup>9</sup> This implies that he is aware of other ways to look.

E. Mayr, a famous evolutionist writes: "The time has come in biological theory formation to stress those material and physical phenomena that are exclusive to biology and not encountered when one deals with inanimate objects."<sup>10</sup> (Emphases mine). He knows the difference. But he fails to give a theoretical account of it.

Mayr rejects the entelechy of Driesch and the "élan vital" of Bergson as forces that can direct vital processes. He cannot find them with his measuring apparatus. Dooyeweerd too rejects them but on different grounds. He concludes that such forces amount to the abstract aspect of life being made into an independent substance. It becomes a metaphysical speculative concept that represents nothing of reality.

What then directs the processes of over one billion different kinds of cells in our body, each in turn containing millions of molecules, many of which in their turn are composed of millions of combinations of smaller molecules and atoms? What directs their behavior in time in growth, accelerating or inhibiting their activities through enzymes, even within each DNA molecule?

According to modern evolutionary biology this is "simply" a matter of programming, encoded in DNA molecules. As Mayr puts it, this program has a built-in goal and he calls the resulting process teleonomic: "A teleonomic process or behavior is one that owes its goal-directedness to the operation of a program" and such a program "might be defined as coded or prearranged information that controls a process (or behavior)

leading towards a given end."11

The word teleonomic is interesting. The goal--telos--is subject to a law--nomos--which is specific for each individual and species. Mayr, a leading authority in biology and evolution, accepts the law-side for the processes inside the cell. But his religious presuppositions exclude any "supernatural," i.e. non-physical aspects that make this object into a living being. And so he is forced to seek refuge in the terminology of computer technology.

A computer program is imprinted upon a mechanical tool such as a tape, a product of man's formative power, and of physical qualification. But computers do not occur in nature. And yet, a concept derived from man's cultural activity must serve as an explanation for teleonomic processes and behavior in living organisms. Consequently this program which controls the functions of the cell assumes the very metaphysical dimensions Mayr seeks to avoid in the entelechy of Driesch.

The behavior of an individual whole qualified by the biotic aspect is indeed governed by its own biotic laws. And biology seeks to open up this biotic aspect by making such an individual into its object. It explores the biological laws that govern it.

#### 4. Biological investigation

The analytical function of our theoretic thinking guides our observation: the experiment is qualified by our logical thought-aspect. But it must be founded in the biotic aspect of the object under investigation if it is to find a biological datum. If I add potassium cyanide to an enzyme that facilitates oxygen transfer in the cell it inactivates that enzyme. When I conduct such an experiment with molecules in a test tube, the whole chemical process is founded in and qualified by the physical aspect. If I give KCN to people, the way the "reverend" Jones did in Guyana, I can examine the behavior of individuals who function as subjects in the biotic aspect. And I will observe a biological response: several hundred people died a miserable death. They all obeyed a biological law for living beings.

We must look at the teleonomic process such as the development of a mature individual into trillions of individual cells in the same way. We begin with the observation, already evident to us in our naive experience, that a sequoia tree is a living individual whole. The biologist goes to work with the various organs, dissected by the plant anatomist and the chemical components discovered by the biochemist. He tries to find the biological relationships. He wants to know how components such as molecules with their own individuality structure relate to one another and how the tree as an encaptic individual whole makes all these components subservient to its existence as the unique living being it is.

In all truly scientific investigation we must begin with an individual whole and make it into an object of our experiment. Reality gives us no alternative and this is in fact what all plant and animal physiologists do. Without realizing it they found their experiments, while always qualified by the logical function of thought, in the aspect under investigation. They sense that a physical experiment, applied to matter,

plant, animal or man will only yield physical information.

Because of the confusing philosophical implications many biologists investigate biotic phenomena without bothering to ask questions about what essential difference there is between living and dead matter. They consider it to be self-evident that there is a difference and that life is something you can work with, and so they do. The rapid progress of modern medicine is ample proof of the efficiency of their work. They follow the example of earlier successful scientists who refused to say what it was they worked with: Newton with gravity, Coulomb with electricity, Ampère with current running along a wire.<sup>12</sup> They refused to ask the wrong questions.

## 5. Evolutionist Metaphysics and Biological Science

Modern evolutionists are not satisfied with this attitude of "docta ignorantia." Biologist Chen Kang Chai does ask this question: "What is life?" and claims to know the answer: "Life is essentially a self-perpetuating information system."<sup>13</sup> Similarly Mayr is not satisfied with the questions of "what" and "how" used in physical science. In biology "no explanation is complete until a third question is asked: "Why?" It is Darwin's evolutionary theory that necessitates this question."<sup>14</sup> . . . "the existence of teleonomic programs--unmoved movers--(Delbrück)<sup>15</sup> is one of the most profound differences between the living and inanimate world...." This genetic program of DNA is as invisible however "as it was for Aristotle. Its existence is inferred as it was for Aristotle."<sup>16</sup>

True to the old humanistic tradition, man's imagined autonomous thinking has produced another self-made idol. It is not a particularly new one as Mayr himself admits. His "unmoved mover," this time a "program," is no more than an absolutized concept he first abstracts from reality and then hoists on its pedestal for our worship. This modern metaphysics is the inevitable outcome of the attempt to reduce the biotic aspect to that of physics. This reductionism is what makes much of modern science so sterile. The "new" science of socio-biology as propagated by Edward O. Wilson in his massive volume *Socio-biology, the New Synthesis*<sup>17</sup> is a depressing example of this. Society, like the cell, becomes a machine and man a tool.

Because evolutionists refuse to explain biological data in other than mechanistic terms, an enormous amount of work and writing is wasted on futile metaphysical speculations and much necessary work remains not done. These speculations cannot be verified by experimentation and thus lack scientific value, do not expand out knowledge and merely distort the view of reality in its believers. Their work shows all the characteristics of their favorite helper, that man-made marvel of technology, the computer: garbage in, garbage out.

Our beautiful creation is given to us with its modal framework that transcends our theoretic thought and that makes this thought possible. Only if we accept this creation in faith as it really is, can we hope to overcome the metaphysics in modern science and establish a real science of biology, to the honor of the Creator of all reality.

## NOTES

1. Herman Dooyeweerd, *A New Critique of Theoretical Thought* (Philadelphia: Presbyterian and Reformed Publishing Co.) III, (1957), 634.
2. *Ibid.*, p. 736.
3. Ernst Mayr, *Evolution and the Diversity of Life* (Cambridge: The Belknap Press of Harvard University Press, 1976), 365.
4. Herman Dooyeweerd, *A New Critique*, III, 757.
5. M.D. Stafleu, "Quantumfysica en Wijsbegeerte der Wetsidee," *Philosophia Reformata* XXXI (1966), 135.
6. R.M. Chute, *An Introduction to Biology* (New York: Harper & Row, 1976), p. 145.
7. Herman Dooyeweerd, *A New Critique*, III, 766.
8. R.M. Chute, *op. cit.*, p. 144.
9. *Ibid.*, p. 42.
10. Ernst Mayr, *op. cit.*, p. 381.
11. *Ibid.*, p. 389.
12. M.D. Stafleu, "The Mathematical and the Technical Opening up of a Field of Science," *Philosophia Reformata* XLIII, (1978) 24, 26.
13. Chen Kang Chai, *Genetic Evolution* (Chicago: The University of Chicago Press, 1976), XV.
14. Ernst Mayr, *op. cit.*, p. 398.
15. Delbrück, 1971:35, quoted in E. Mayr, *op. cit.*, p. 401.
16. Ernst Mayr, *op. cit.*, p. 401.
17. Edward O. Wilson, *Sociobiology, the New Synthesis* (Cambridge: The Belknap Press of Harvard University Press, 1975).

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# Theses on P.A. Verburg's Linguistic Theory

by A. Weideman

1. For several reasons language philosophy has once more become topical in linguistics.
2. The argument that linguistics has freed itself from philosophy, is itself of a philosophical, and not a linguistic, nature.
3. Verburg's linguistic theory is at once a development of and a radical departure from the philosophical vision he subscribes to.
4. Verburg's term 'clarify' can be used interchangeably with 'signify'.
5. It is curious that Verburg uses the term 'clarification' to describe the nature of language, but also links it up with the idea of communication, that he does not want to use it as a term to describe language.
6. Verburg's intention to include all human signs (speech, writing and gestures, i.a.) in the study of language must be applauded.
7. Other admirable features of his linguistic theory are:
  - 7.1 that he claims that the norms for language are of a prescientific nature;
  - 7.2 that he emphasizes the situation in which the speech act is performed and
  - 7.3 that he wants to confront and challenge the results of both synchronic and diachronic linguistics.
8. As in contemporary reformational philosophy, the uniqueness of the lingual aspect of reality, which is counterbalanced by its relation to other aspects, is acknowledged in Verburg's theory.
9. Verburg makes a sound contribution to the development of linguistics from a biblical starting-point in his analysis of the coherence of the lingual aspect of reality with other temporal aspects, yet there are quite a few gaps and inconsistencies in his theory about this coherence.
10. One must agree with Verburg that grammatical-syntactical study is only one part of linguistics.
11. Verburg's theory departs radically from his philosophical framework when he
  - 11.1 takes up the time order (i.e. an order of earlier and later) of the different modal aspects as a hierarchical order and
  - 11.2 treats the different aspects as concrete things.



12. It is a pity that Verburg, in spite of his intention to include all human lingual acts in the study of linguistics, implicitly restricts his theoretical analysis to human speech.
13. Verburg himself does not escape the trap of the form/content (word/meaning; exterior/interior; language/thought) scheme that he criticizes in the theories of von Humboldt and de Saussure.
14. A major problem in Verburg's theory is the paradoxical opposition of language and situation (which he tries to explain in terms of the duality of freedom and restriction) because this leaves him defenceless against the dualism of freedom and determinism in modern linguistics.
15. The departure that Verburg's theory makes from the philosophical perspective that he intends to develop in the field of linguistics, should probably be connected with the fact that he describes his own position as 'personalist-functionalism'.

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## Two books on the Christian mind

by Brian Walsh

*Developing a Christian Mind*, by Nancy B. Barcus, Downers Grove, Illinois: Inter-Varsity Press, 1977, 100 pp., \$3.75; and *The Universe Next Door: a basic world view catalogue*, by James W. Sire, Downers Grove, Illinois: Inter-Varsity Press, 1976, 240 pp., \$4.25.

The task of leading the Christian community to more fully heed the call to "be transformed by the renewing of your mind" (Romans 12:1) has been hindered, it seems to me, by the general ineptness of Christian scholars to write in interesting, clear and understandable language. The educated, but non-academically oriented members of the Christian community have not been served well by their academic brothers and sisters, and the body of Christ is the weaker for it. The strength of the two books presently under review, however, is that they by and large escape the perils of academic lingo and communicate their message in flowing, enjoyable and lucid prose. The fact that both authors are neither philosophers nor theologians, but English professors, undoubtedly accounts for the readability of the two books.

Barcus' book is subtitled, "a fearless, happy ease amid the conflicts of secular thought." Those young Christian students who have undergone emotional and intellectual breakdowns under the pressures of 'reforming their discipline for the kingdom' should have read this book first. So also should Christian students who fail to see any connection between their faith and their scholarship. As the subtitle suggests, Barcus'

message is that the development of a Christian mind, while in no way an easy matter or without pain and struggle, should be characterized by a discerning openness to the discoveries of the non-Christian scholar. Rooted in Christ, the Christian student can remain cool in the face of conflicting opinions and uncertainties. Barcus counsels the Christian not to rashly respond to an opposing position, but to move slowly. "The best approach is reserved judgment. When we cannot see around dark, difficult or convincing arguments, reserved judgment serves well" (p. 18). The Christian who wants to integrate faith and thought should attempt to clearly see the philosophy or religion that is ultimately in question in any argument.

Barcus does not, however, simply give abstract pointers for the discerning Christian; she leads the reader through a reading of a number of non-Christian scholars, thereby illustrating a Christian mind at work. In three chapters on science, nature and humanism, she briefly (sometimes too briefly?) discusses Whitehead, Planck, Monod, Thoreau, Krutch, Eiseley, Boulding, J. Huxley, Reich and Skinner. Some central elements of each scholar's thought are elucidated (usually from one text which is listed in the reading list at the back of the book) and then discussed in terms of both what they can teach the Christian student and where the Christian student should be wary. Throughout the book, Barcus warns the reader to be careful to discern the 'interpretation' that a scholar gives to the facts he/she has scientifically established (cf. pp. 44, 63 and 91). Perhaps this is both her greatest strength and her greatest weakness. The emphasis on the interpretations of facts is a strength because Barcus is saying thereby that the religious heart of the matter is often to be discerned in what a scholar does with his/her discoveries. Where do the facts lead you? And Barcus says that the Christian may not be led to interpret the facts the same way as the non-Christian. There is a hidden weakness in this position, however. The weakness is first evident in Barcus' comments on how the scholars under review deal with questions which arise out of their work; questions on the periphery of science, and not on science itself. Perhaps the root of Barcus' problem is that she has inadvertently fallen into precisely the fact/value dualism that she counsels Christian students to avoid. She says that the "questions of value, purpose, meaning extend beyond the expertise of science" (p. 44), and therefore when the scientist addresses such questions his true religious colours are seen. I wonder, however, whether Barcus' emphasis on the value-laden interpretations on the facts actually goes far enough. Does she not thereby fail to question the validity of the 'facts' themselves? A Christian mind does well to reflect upon not only the values or interpretations that follow the facts, but also upon the values that guided the investigation which came up with the so-called facts in the first place. Barcus would have done well to include a section on Polanyi and Kuhn in her book on precisely this point. They have seen (as did the Christian philosopher Herman Dooyeweerd in his writings in the thirties) that valueless facts simply do not exist. The values that a scholar brings to his/her research can be understood as the world view of the scholar. An analysis of a scholar's world view and how that manifests itself in his/her scholarship therefore could help us to come closer to both a Christian mind and a Christian approach to non-Christian scholarship. This leads us to the second book.

Although James Sire's *The Universe Next Door* does not directly address the question of a Christian mind in scholarship, it does discuss world views. He is "convinced that for a person to be fully conscious

intellectually he should not only be able to detect the world views of others but be aware of his own--why it is true and why in the light of so many options he thinks it is true" (p. 1). Sire defines a world view as "a set of presuppositions (or assumptions) which we hold (consciously or subconsciously) about the basic make-up of our world" (p. 17). A well-rounded world view answers five basic questions, viz., 1. What is prime reality? 2. Who is man? 3. What happens to man at death? 4. What is the basis of morality? and, 5. What is the meaning of human history? (p. 18). Sire's actual exposition of assorted world views seems to include at least one more question for all world views, and that is the epistemological question: What and how can man know?

The world views that Sire chooses to elucidate are the ones that he considers to have been historically formative in Western consciousness. Rather than begin with the Greek origins of Western world views, however, he begins with Christian theism. Contending that Christian theism was the dominant world view from the early Middle Ages to the 17th century, he lists some of the tenets of theism as it was held in common by all Christians whether they be Catholic, Lutheran, Calvinist or Anabaptist. I wonder, however, whether some of the 'family squabbles' that Sire wants to overlook actually were world view differences. It seems to me that the magnitude of the struggle of the Reformation suggests that ultimate perspectives were at stake, not just abstract theological questions between friends. Indeed, one could understand much of this struggle to be between a revival of the biblical world view in opposition to the dominant medieval world view, which itself was a synthesis of the Greek and Christian visions of life. Regardless of my questions here, however, Sire does seem justified in saying that theism was replaced as a dominant world view by deism. The clockwork universe of deism which still allowed for the existence of God, inevitably led to the total secularism of naturalism. Sire identified naturalism with the materialism of a closed universe. Naturalism, however, seems to many people to be an impossible world view to live by; if all man is is a complex machine and there is no transcendent basis for ethics and meaning, then naturalism inevitably gives birth to another world view: nihilism. The last three world views that Sire discusses are all 20th century attempts to answer nihilism. The first is existentialism in both its atheistic and theistic forms. Offering a similar analysis as Francis Schaeffer, Sire contends that existentialism answers the despair of nihilism by saying that there is more to life than the material, objective machine world; there is also the realm of subjectivity. The authentic man is free to create his own values, to act, to engage in I-Thou relationships, to have faith in the myths. But existentialism still leaves one with a dichotomized life and therefore many Westerners are turning either to the pantheistic monism of the East or to the separate universe of altered states of consciousness. The East assures us that all is One and experiences of altered consciousness transcend all distinctions of space, time and morality. It is interesting to note that the final chapter on this new consciousness is the longest in the book. For a person who is simply baffled by the current interest in Carlos Castaneda, et al., this proves to be a very helpful and illuminating discussion of the topic.

Sire's analysis of these world views is an important step in raising the awareness of the Christian community (especially students!) to the pervasiveness of conflicting world views in our pluralistic culture. His detailed footnotes also provide us with further resources to help us in our growth. But there are also problems with this book. A major problem for anyone who is aware of the function of a world view in a person's life is the problem of how to communicate across the chasm of conflicting world views. How does one speak meaningfully to a person who hears the words and sees reality differently because of a different world view? Although Sire has clearly struggled with this problem, he has not sufficiently seen his way through it as of yet. But this leads to a related problem which Sire does address, viz., the criteria by which one judges and chooses a world view. In the final chapter Sire lists four criteria. The first is that a world view must be logically coherent, that is, it should obey the laws of identity, contradiction and excluded middle. The second criterion is that a world view must be able to comprehend the data of reality. Thirdly, an adequate world view should explain what it claims to explain, and fourthly, it should be subjectively satisfactory. Although I can see how the last three criteria are essential to any world view, I find it revealing that Sire mentions logical correctness as the very first criterion. Sire tends to speak about world views in rather intellectualistic terms. While Sire explicitly says that world views are often held unconsciously and implicitly, he nevertheless seems to analyze them as theoretical constructs, explainable in terms of a list of propositions. It should be clear, however, that Sire's problem is a real problem and not limited to him. It is difficult to talk about world views: language is so analytically overloaded in the West that as soon as we attempt to talk about something which is at heart non-theoretical like a world view, we end up giving philosophy and theology lectures. Indeed, one of the strengths of Sire's book is his use of poetry and literature. Here we can intuit the meaning of a world view in a non-theoretical way.

In spite of the difficulties involved for anyone who writes about world views, however, I would still criticize Sire for over-intellectualizing the matter. He does not sufficiently see that a world view is primarily a matter of committed belief. It has to do with the way in which one ultimately views the world, what is of ultimate importance, what is held to be undoubtedly true. For Sire to suggest logical consistency as the first criterion for world view evaluation says more of his own world view than anything else. Not only is such a criterion unhelpful in evaluating a world view, it is also irrelevant, as Sire himself seems to acknowledge, to the Eastern world view, the new consciousness, nihilism and most of existentialism.

My final criticism is that Sire does not sufficiently talk about how a world view manifests itself in a way of life, a lifestyle. This is more than just a question of ethics, it is a question of the culturally formative power of a world view. Will an existentialist raise his/her children, set up governments, consume oil or run a business any different from the naturalist or Buddhist? If not, then world views are irrelevant. When we can see the results of a world view in cultural terms perhaps we will more fully understand what the characteristics of that world view are. More concretely we could ask, how do deism and naturalism lead to the Western version of capitalism and liberal democracy that most Christians accept as the way the economy and government should be run? And does cultural upheaval in a country like Japan not show us the implications of conflicting world views (Japanese Shinto and Buddhist

religion and capitalist religion via multi-national corporations) in the life of a nation? Would not this approach be more conducive to the subject at hand, viz., understanding the meaning of a world view?

My criticisms notwithstanding, Sire and Barcus have written two books that are needed and should be read. They both display the kind of struggle that should characterize Christian scholarship in our pluralistic age. My critical comments should be read as my small contribution to the task that they have advanced for the Christian community.

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## God's Revelation in Creation Ordinances

by Herman Dooyeweerd

*The English translation of Vernieuwing en Bezinning, the collected series of articles in which Dooyeweerd gave his most popular introduction to his thought, has been published by Wedge Publishing Foundation. It is entitled Roots of Western Culture: Pagan, Secular and Christian Options (228 pp.) and sells for \$12.95 (Canadian). The following is an extract from the second chapter, where Dooyeweerd argues for both the necessity and the possibility of discerning God's revelation in creation (pp. 58-60).*

.....In order to perceive God's ordinances for historical development, it is necessary that we search for them in the historical aspect and in its unbreakable coherence with the structures of the other aspects. If this search is not to go astray, then the scriptural ground motive of creation, fall, and redemption through Jesus Christ must be our only point of departure and our only religious motivation.

### Biblicism

Some may object as follows: is such an intricate investigation really necessary to gain insight into God's ordinances for historical development? Is it not true that God revealed his whole law in the ten commandments? Is this revelation not enough for the simple Christian? I answer with a counterquestion: is it not true that God placed all the spheres of temporal life under his laws and ordinances--the laws that govern numerical and spatial relationships, physical and chemical phenomena, organic life, emotional feeling, logical thinking, language, economic life, and beauty? Are not all these laws grounded in God's creation order? Can we find explicit scriptural texts for all of them?

If not, shall we not acknowledge that God gave man the task to discover them? And admitting this, can we still hold that it makes no difference whether we start from the ground motive of the Word of God or from the guidance of unscriptural ground motives?

Those who think they can derive truly scriptural *principles* for political policy strictly from explicit Bible texts have a very mistaken notion of scripture. They see only the letter, forgetting that the Word of God is spirit and power which must penetrate our whole attitude of life and thought. God's Word-revelation puts men to work. It claims the whole of our being; where death and spiritual complacency once held sway in us, it wants to conceive new life. Spiritually lethargic persons would rather have the ripe fruits of God's revelation fall into their laps, but Jesus Christ tells us that wherever the seed of God's Word falls on good soil, we ourselves must bear fruit.

Today Christians face a fundamental question posed by the "new age": what historical yardstick do we possess for distinguishing reactionary and progressive directions in history? We cannot derive this criterion from the ten commandments, for they were not meant to save us from investigating God's creational ordinances. To answer this basic question, one needs insight into the specific ordinances that God established for historical development. There is no easy path to such insight. It requires investigation. Our search will be protected against derailment if the creation motive of God's Word claims our life and thought integrally.

#### Barthianism

But another objection arises, this time from the followers of Karl Barth. The objection is this: what do we know of the original ordinances of creation? How can we speak so confidently of creation ordinances, as if the fall had never happened? Did not sin change them in such a way that they are now ordinances for *sinful* life? My reply is as follows.

The ground motive of the divine Word-revelation is an indivisible unity. Creation, fall, and redemption cannot be separated. In effect, a Barthian carries through such a separation when he confesses that God created all things but refuses to let this creation motive completely permeate his thinking. Did God reveal himself as the creator so that we could brush this revelation aside? I venture to say that whoever ignores the revelation of creation understands neither the depth of the fall nor the scope of redemption. Relegating creation to the background is not scriptural. Just read the Psalms, where the devout poet rejoices in the ordinances that God decreed for creation. Read the book of Job, where God himself speaks to his intensely suffering servant of the richness and depth of the laws which he established for his creatures. Read the gospels, where Christ appeals to the creational ordinance for marriage in order to counter those who aimed at trapping him. Finally, read Romans 1:19-20, where the creational ordinances are explicitly included in the general revelation to the human race. Whoever holds that the original creational ordinances are unknowable for fallen man because of the effects of sin, does basic injustice to the true significance of God's *common grace* which maintains these ordinances. Sin changed not the creational decrees but the direction of the human heart. Man's heart turned away from the creator.

Undoubtedly, this radical fall expresses itself in the way in which man discloses the powers that God enclosed in creation. The fall affects natural phenomena, which man can no longer control. It expresses itself in theoretical thought led by an idolatrous ground motive. It appears in the subjective way in which man gives form to the principles established by God in his creation as norms for human action. The fall made special institutions necessary, such as the state and the church in its institutional form. But even these special institutions of general and special grace are based upon the ordinances that God established in his creation order. Neither the structures of the various aspects of reality, nor the structures that determine the nature of concrete creatures, nor the principles which serve as norms for human action, were altered by the fall. A denial of this leads to the unscriptural conclusion that the fall is as broad as creation;<sup>1</sup> i.e., that the fall destroyed the very nature of creation. This would mean that sin plays a self-determining, autonomous role over against God, the creator of all. Whoever maintains such a position robs God of his sovereignty and grants satan a power equal to that of the origin of all things.

Certainly, then, this objection from the Barthian camp may not keep us from searching for the divine order for historical development as revealed in the light of the creation motive.

[1. Dutch: "dat de zondeval even ver gaat als de schepping," literally: "that the Fall goes as far as creation." This is an ambiguous and potentially misleading formulation. Dooyeweerd does not deny (in fact he often stresses), that the Fall is "as broad as creation" in its destructive effects. He means here (as his subsequent explanatory phrase indicates) that the Fall does not penetrate to the bottom (so to speak) of creation; it does not eradicate or swallow up creation. The depravity of creation is "total." but not "absolute."--A.W.]

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## The Doctrine of Vocation in England

by Paul Marshall

The purpose of the study is to determine the nature of, and the developments in, the doctrine of vocation in England, focussing particularly on the period 1500-1700. Background on Ancient, New Testament, Medieval and Continental Reformation views is also given.

Greek and Roman philosophers, with the exception of the Stoics, took a low view of necessary labour and of those who performed it. In contrast to this, Pauline teaching gave a much more elevated place to work. The New Testament was much more positive on the point than even the Stoics.

Augustine, Aquinas, and medieval Christian writers generally, placed a much higher value on the vita comtemplativa than the vita activa. The exceptions to this trend, including Wyclif, Tauler and Eckhart, were usually outside the mainstream of the church. The teachings of Luther, Calvin and the English reformers were a marked change from medieval attitudes. They emphasized everyday work and insisted that it was a Christian calling. They taught that a Christian's obedience was primarily to be manifested in these callings.

The influence of the Renaissance in England was different from that of the Reformation. Although the members of Sir Thomas More's circle stressed an active life, they still treasured the vita comtemplativa as a higher good and restricted the range of activities they considered to political affairs. The English reformers, on the other hand, stressed the labours and duties of all the members of the Commonwealth. While their view of social relations was distinctly medieval in character, their stress on worldly callings was in clear contrast to what had gone before them.

Puritan views were different from those of the Anglicans in the matters of calling, wealth, social mobility and individualism. Anglicans stressed status and acceptance while Puritans stressed calling and usefulness. Both groups were similar in their castigation of idleness and their attitudes to the poor. The differences between the Anglicans and Puritans did not relate to their acceptance or otherwise of the doctrines of Calvinism. In post-Restoration times the social views of the Latitudinarians and the Non-conformists were very similar.

John Goodwin and the Levellers adapted the idea of calling in order to allow larger numbers of Englishmen to become politically active. Ultimately, they founded it on the basis of necessity and abstract natural right. There was an evolution in Digger views which culminated in the rejection of callings on the grounds that they gave a divine sanction to the pre-existing division of labour in society. John Locke also adapted the doctrine of calling and sought to synthesize it with mercantilist economic views.

The doctrine of calling provides a useful means of unravelling aspects of the social views of a large number of groups in England. It signified a marked change in attitudes toward work and formed the core of most protestant teachings on economic matters. While the evolution of views of the calling did not manifest a conscious change in conceptions of the structure of society, it reveals marked differences in how people understood their conduct within that society.

The above is an abstract of a dissertation entitled "The Calling: Obedience, Duty, Labour and God in Sixteenth and Seventeenth Century England" submitted to the Faculty of Graduate Studies in Political Science, York University, Toronto, Ontario.

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# Is the Computer a Technical Object?

by Michael Van Wijk

E. Schuurman in his *Techniek en Toekomst* (Assen, 1972; English translation forthcoming at Wedge) states that "voor alle technische objecten geldt het uitzonderlijke, dat zowel de funderings- als de bestemmingsfunctie een culturele of technische functie is." (It is a remarkable fact about all technical objects that the foundation function as well as the destination function is a cultural or technical function; op. cit. p. 16, section 1.3.2). He goes on to say that there is a diversity of individual destination functions which makes a classification of technical objects possible.

When he proposes such a classification it becomes clear that as a result of the technical forming with technical operators a change in destination function may take place: "De resultaten van de bewerking kunnen een actief-technische, een passief-technische of een andere bestemmingsfunctie hebben, bijvoorbeeld een symbolische of sociale bestemmingsfunctie." (The results of the forming may have an active technical function, a passive technical function, or another destination function, e.g., a symbolical or a social destination function; op. cit. p. 23, section 1.3.6). He recognizes that the computers form a special category of technical operators (Ibid.).

Schuurman's usage of the term "destination function" is not altogether clear. In the first quotation the term would seem to be identical with qualifying function, but when he speaks of a diversity of individual destination functions, he apparently refers to a diversity of end uses, in which the technical object may be assembled into a non-technically qualified object. For instance, a metal screw may be used in the assembly of a truck body, and so finds its destination in a transportation object, but it is difficult to understand why the screw would thereby become a socially qualified object.

At any rate, following Schuurman's usage of destination function, one would expect him to ascribe to the computer a symbolical destination function. But no! Schuurman states emphatically that the computer is a technical object: "Aan het einde van de analyse van de technische objecten moet in het bijzonder stilgestaan worden bij de computer, omdat deze wel bij uitstek het technische object van de toekomst zal zijn." (At the conclusion of the analysis of the technical objects special consideration must be given to the computer as it will no doubt become the technical object par excellence of the future; op. cit. p. 25, section 1.3.7). This turn in his discussion is very surprising, because the computer simply cannot be understood as a technical object with a technical destination or qualifying function.

Van Riessen's discussion of the technical objects in his *Filosofie en Techniek* (Kampen, 1949) is much more helpful in this respect. Although the modern computer did not yet exist when he wrote his major work, he opens perspectives in his analyses of enkaptic relationships between technical operators and symbolical objects (op. cit., pp. 548-551,

section 8C2).

Using this analysis I would tentatively define the computer as a symbolically qualified system of symbolical operators, each one founded in one or more technical operators, to form a programmable enkaptic whole, for the processing, storage, and transmission of signals representing information, and in accordance with stored programmes, upon receipt of signals through input/output devices.

Perhaps Schuurman's apparent confusion in considering computers as technical objects can partly be understood from his classification of computers into "stuurgereedschap en denkgereedschap" (which could be translated as: cybernetic and intelligent tools). The first class of computers (more commonly known as process computers) would according to him fulfill a technical function, whereas the second class would have an informative function (op. cit. p. 23, section 1.3.6). This emphasis on gereedschap, tools, may mislead one easily into thinking of computers in terms of machines, more so, since historically, from Pascal and Leibnitz to Babbage and Turing, their inventions have been variously described as machines and engines. Babbage's Analytical Engine was in fact driven by a steam engine. And the English language still speaks of adding-machines, only recently made obsolete by electronic calculators. Even modern computer terminology speaks of machine language.

Nevertheless, a philosophical structural analysis of the technical objects ought to contribute to a better understanding of the computer and its peripherals, rather than to perpetuate an understandable misunderstanding. To define the computer as a technical object reduces the possibility of better insight into the structure of the modern computer.

Schuurman senses some of the problems with his own terminology. He is aware that somehow computers are different: computers form a separate category (op. cit., p. 23, section 1.3.6) and: the results of the computer cannot be foreseen, and in this respect they differ from other technical operators (op. cit., p. 25, section 1.3.7). What he recognizes in this last statement is the fact that the computer, as a symbolical object, cannot be scientifically controlled, in the sense possible for the technical operators. Van Riessen has already drawn attention to this interesting state of affairs in his discussion of symbolic objects and the science of technology, and has provided a philosophical explanation (op. cit., p. 637).

In the mean time, Schuurman's statement is only partly true. When the computer programme is dedicated toward a certain end use, scientific control becomes possible. But in the use of the programmable general purpose computer there is indeed an element of (often unpleasant) surprise, because the symbolic function cannot be symbolically controlled. This element of surprise contributes to the feeling of uneasiness about such computers, about which Schuurman has many very important and worthwhile things to say.

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# Jesus Christ: Neither Revolutionary nor Conservative

by Dr. B.J. van der Walt

From Christ's attitude towards the political points of view of His day we cannot deduce that He was an activist Zealot. This of course does not imply the contrary, viz., that He must have been a Herodian. (He had no scruples in referring to Herod as "that fox," Luke 13:32). We also have no right to say that He distanced Himself from all political matters like the Essenes and people of Qumran. (When the Jews brought up the question of tax He did not refuse to enter into the matter).

Christ was neither Pharisee, Herodian, Zealot or Sadducee. He did not fall under any party or could not be classified under the ideology of any group. His teaching is of something totally different and entirely new.

Midst all the ways propagated by different groupings and parties, He pointed out the Way. The Way was not one of pure theory or mere practice. It implied a Person, viz., Himself: "I am the Way, the Truth and the Life."

The other ways of his time had long fallen into disuse and disappeared. The liberation movement came to a tragic end. Shortly after the outbreak of the Jewish War the Zealot-rebels became disunited, divided into different groups and fought with one another in a bloody civil war until such time as Titus, the Roman general, appeared before the gates of Jerusalem in the Spring of 70 A.D. The revolution in this case had similarities with the mythological character Saturn who devoured his own children!

All our own ways are literally dead ends: they end in death. Christ's Way, however, is the Way of Life. This Way did not end in a dead end after His death. Just read Acts 9:2; 19:9, 23; 22:4 and 24:14, 22, and it will be evident how many times "the Way" or "the people of the Way" are mentioned.

The true believers persisted on this Way in respect of their attitude towards authority as well. In the year 57 A.D. the apostle Paul wrote to the congregation in Rome who languished under the rule of cruel Nero: "Render therefore to all their dues: tribute to whom tribute is due; custom to whom custom; fear to whom fear; honour to whom honour" (Romans 13:7). See also passages like I Timothy 2:1, 2 and I Peter 2:13-17, which cannot be further discussed here.

Christ's requirement that men must not be obeyed at whatever cost, as God alone has the totalitarian claim to obedience, is indeed also cherished by His followers. In Acts 4:19 Peter says to the Jewish Council who want to forbid them from making any further announcement about Christ: "Whether it be right in the sight of God to hearken unto you more than unto God, judge ye." In Acts 5:29 we find the same:

"We ought to obey God rather than men."

### And We?

We are also people of "the Way." We may not allow our opinions to be determined by the false dilemma: either conservative (right wing) or progressive/revolutionary (left wing). Not only the path to the right or to the left, but the so-called golden mean sends us down the precipice. The only real way out is to listen obediently to and follow the Way.

Christ was not in favour of any of the parties of his time. He was also not opposed to them in the first instance. His life was too positively orientated for this: in every respect He wished to live for God in obedience to His commands. Our position is so often defined by our anti-this or anti-that. (Anti-the government, anti-a certain party, sect or ideology, etc.).

The fact that it is a positive Way does not signify that it is the easy, broad way. Christ Himself warns us that the Way of Life is a narrow Way which is not traversed by the many. Perhaps we shall have to chop our way, through dense undergrowth.... But it is the only Way that brings us somewhere in the end.

It is not the way of revolution, but the Way of reformation.

Both ways seek change, but there the resemblance ends. Revolution aims at destroying what is old. Reformation seeks to renew. Revolution strives to overturn the world; reformation to convert it. Revolution starts with external structures in its efforts to improve the world; reformation begins from within a converted, re-born heart. New life is instilled into the old like yeast which gradually permeates and leavens the dough in its entirety.

The way of reformation therefore cuts deeper and is far more radical than the road of revolutionary violence!

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