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＊キリスト教学特殊研究講義＊＊＊　　S.Ashina

第五章：キリスト教自然神学と生命論
―生命、進化、環境―

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５―４：キリスト教思想と進化論

A．ニュートン主義の自然神学の展開と生命論
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５―４：環境論から見た自然神学

1．キリスト教と環境破壊との関係－問題状況－
2．キリスト教・近代・科学技術・環境

キリスト教思想研究から見て、現代の環境危機の原因を聖書の創造神話まで直接的に遡及させることは、無理がある。しかし、キリスト教あるいはキリスト教思想が問題状況の形成要因（一つのあるいは主要な）であったことまで、否定することもできない。

①近代固有の問題
②争点：自然神学は科学とキリスト教との歴史的関わりにおいて、積極的な役割を果たした（マートン・テーゼ）。自然神学とは、近代科学の形成期において、科学と宗教との　積極的な関わり合いにとって、重要な役割を果たした。その点で、キリスト教が環境問　題に対していかなる責任があるのかを論じる上で、重要な位置を占めていると思われる。

3．自然神学とエコロジー

John Ray, *The Wisdom of God manifested in the Works of the Creation* (1691),
George Olms Verlag　1974

＜ポイント＞

生命体と環境とが人間にとって有する存在意味という観点とその修正・相対化

1．使用・目的という議論
宇宙にとっての人間存在の決定的な意味（ベントリーでも）

世界には人間の生存にとってきわめて適した条件が整っている

2．しかし、聖書の創造物語についても、また自然神学の議論についても、
基本は人間中心主義ではなく、神中心主義にある。
神の栄光の讃美
神を意識的自覚的に讃美できる存在者の存在意味
人間のためという観点は相対化されている

3．自然神学による神学と諸科学との結合
コミュニケーション合理性

4．自然神学の解体による知的世界の分裂（近代固有の状況）
科学技術より神中心という観点の喪失
チェック機構を失った人間のためという議論
歯止めのない欲望の自己目的化・肥大化

5．科学技術のあり方に対して、神学が発言する際の、基盤の再確立としての自然神学の再建。
キリスト教思想は、現代の科学技術のもたらした状況下で、責任ある発言をなし得るか。

５―５：まとめ

＜成果と展望＞

（1）自然神学とは何か

1．コミュニケーション合理性の問いとしての自然神学
→　自然神学は反復されねばならない

2．コミュニケーション合理性の形式的条件
合理的な対話の条件は何か
「多元性・他者・対話」という基本問題として議論を展開する必要性
宗教的多元性の状況下で理想的発話状況が成立する条件
ティリッヒ、ハーバーマス、アーペル

3．Paul Tillich, *Christianity and the Encounter of the World Religions*, 1963　(in:ME.5)
1)相互に相手の宗教の価値を承認し合うこと
2)対話の当事者がそれぞれの宗教を代表していること
3)対話が成り立つための共通基盤(common ground)が存在すること
4)当事者が自己の立場に対してなされる相手からの批判に開かれていること

4．Jürgen Habermas, *Theorie des kommunikativen Handelns.* 1981
die Geltungsansprüche：　Verständlichkeit / Wahrheit / Richtigkeit / Wahrhaftigkeit

（2）自然神学は、「宗教と科学」という問題にとっていかなる意味を持つか
合理性の内容を構成するものは、歴史的状況において変化する
キリスト教の基盤としての創造論・宇宙論

（3）自然神学の現代的意義をいかに再認識し、その再構築をいかに行うのか
生命・エコロジーという問題群において
自然神学は、人間と世界との関係性をいかに具体的に展開できるのか

＜補足：目的・デザイン、そして進化＞

John F. Haught (ed.), *Science and Religion in Search of Cosmic Purpose*,
Georgetown University Press 2000

1． Ayala, Francisco J., Darwin and the Teleology of Nature, pp.18-41

I give a definition of teleology and clarify the matter by distinguishing between internal and external teleology, and between bounded and unbounded teleology.

internal (natural) teleology: the human eye, so obviously constituted for seeing, but resulting from a natural process

external (artificial) teleology: a knife

bounded (necessary) teleology: the development of an egg into a chicken

unbounded (contingent)teleology: the evolutionary origin of the mammals

The presence of teleology in living organisms is a distinctive consequence of the interactions of natural selection with mutation and other stochastic phenomena in the process of the adaptation of organisms to their environments. The outcome of this process is evolution.

interaction between chance and necessary, or between random and deterministic processes. (18)

The main reason for this discredit is that the notion of teleology is equated with the belief that future events --- the goals or end-products of processes --- are active agents in their own realization.

Biological evolution can, however, be explained without recourse to a Creator or a planning agent external to the organisms themselves. ... Teleology understood in the stated sense is, then, appropriately rejected in biology as a category of explanation.

Darwin accepted the facts of adaptation and then provided a natural explanation for the facts. One of his greatest accomplishments was to bring the teleological aspects of nature into the realm of science. He substituted a scientific teleology for a theological one. (19)

Before Darwin, the origin of organisms and their marvelous adaptations were left unexplained or were attributed to the design of an omniscient Creator. In the thirteenth century St.Thomas Aquinas had used the design of nature as his "fifth way" to demonstrate the existence of God . In the nineteenth century the English theologian William Paley, in *Natural Theology* (1802),elaborated the argument from design as a forceful demonstration of the existence of trhe Creator.... *The Bridgewater Treatises*, published between 1833 and 1840, (20)

It was Darwin's greatest accomplishment to show that the directive organization of living beings can be explained as the result of a natural process, natural selection, without any need to resort to a Creator or other external agent. (21)

Natural selection is a statistical bias in the relative rate of reproduction of alternative genetic units. (22)

a nonrandom process --- natural selection (23)

Evolution is not the outcome of purely random processes, but rather there is a selection process that picks up adaptive combinations because these reproduce more effectively and thus become established in populations. (24)

natural selection favored genes and gene combinations increasing the functional efficiency of the eye. Such genetic units gradually accumulated,... It has some appearance of purposefulness because it is conditioned by the environment: (25)

The variables determining what direction it will go in are the environment, the preexisting constitution of the organisms, and the randomly arising mutations. (26)

Natural selection accounts for the "design" of organisms, because adaptive variations tend to increase the probability of survival and reproduction of their carriers at the expense of maladaptive, or less adaptive variations. The arguments of Aquinas or Paley against the incredible improbability of chance accounts of the origin of organisms are good as far as they go. But neither of these scholars, nor any other authors before Darwin, were able to discern that there is a natural process (namely, natural selection) that is not random but rather is oriented and able to generate order, or "create." ... Chance is an integral part of the evolutionary process. ... But this random process is counteracted by natural selection, ... Mutation and selection have jointly driven the marvelous process that, starting from microscopic organisms, has spurted orchids, birds, and humans.

The theory of evolution manifests chance and necessity jointly implicated in the stuff of life; randomness and determinism interlocked in a natural process that has elaborated the most complex, diverse, and beautiful entities in the universe. .... This is Darwin's fundamental discovery that there is a process that us creative though not conscious. (27)

Teleology can be defined without implying that future events are active agents in their own realization or that the end results of a process are consciously intended as goals. The notion of teleology arose most probably as a result of our reflection on the circumstances connected with our own voluntary actions. The anticipated outcome of their actions can be envisaged by humans as the goal or purpose toward which they direct their activity. ... In this sense, the concept of teleology can be extended, and has been extended to describe actions, objects, or processes that exhibit an orientation toward a certain goal or end state. .... In this generic sense, teleological explanations are those explanations in which the presence of an object or a process in a system is explained by exhibiting its connection with a specific state or property of the system to whose existence or maintenance the object or process contributes. ... The essential element is that teleological explanations require that the property that the feature serves must be *the explanatory reason for the existence of the feature*. .... teleological explanations are appropriate to account for the existence of adaptation in organisms while they are neither necessary nor appropriate in the realm of inanimate nature. (28)

The adaptations of organisms are explained teleologically in that their existence is ultimately accounted for in terms of their contribution to the reproductive fitness of the

species. (30)

Inanimate objects and processes (other than those created by people) are not teleological because they are not directed toward specific ends; they do not exist to serve certain purpose. (31)

Similarly, not all features of organisms have teleological explanations. (32)

Natural selection can be said to be a teleological process in a causal sense. Natural selection is not an entity but a purely mechanistic process. But natural selection can be said to be teleological in the sense that it produces and maintains end-directed organs and mechanisms, when the functions served by them contribute to the reproductive efficiency of the organism. ... The end-state is causally --- and in general temporally --- posterior. (34)

There is purposeful activity in the world, at least in humans, but the existence and particular structures of organisms, including humans, need not be explained as the result of purposeful action. ... Natural selection does not in any way direct evolution toward any particular kind of organism or toward any particular properties. (36-37)

Teleological explanations are compatible with causal explanations. ... But these causal explanations do not make it unnecessary to provide teleological explanations wherever these are appropriate. ... Teleological explanation can always be reformulated, without loss of explicit content, to take the form of nonteleological ones.(Nagel) .... the teleological explanation connotes something more than the equivalent nonteleological one. A teleological explanation implies that the system under consideration is directively organized. For that reason, teleological explanations are appropriate in biology but make no sense when used in the physical sciences to describe natural phenomena such as the fall of a state or the motion of the planets. Moreover, and most important, teleological explanations imply, as I have argued above, that the end result is the explanatory reason for the existence of the object or process which serves or leads to it. (37-38)

It has been noted by some authors that the distinction between systems that are goal-directed and those that are not is extremely vague. The classification of certain systems as end-directed is allegedly rather arbitrary. ... I suggest the use of the criterion of utility to determine whether or not an entity is teleological. ... Utility in living organisms is defined with reference to survival or reproductive efficiency of the structure or process. (38)

2. Gingerich, Owen, Is there Design and Purpose in the Universe ?, pp.121-132

This notion of design suggests the existence of a goal-directed or end-directed process, which can aptly be termed teleology. But ever since the work of Charles Darwin over a century ago, an alternative, entirely naturalistic scenario has also been on the table. (122)

the weak anthropic principle

Rather than accepting that we are here because of a deliberate supernatural design,

they claim that the universe simply must be this way because we are here; had the universe been otherwise, we would not be here to observe ourselves, and that is that. (123)

In trying to produce logically infallible proofs for the existence of supernatural design in the universe, we reach a standoff. (124)

Design generally implies purpose or intention, but purpose is rather different from design.

I had intended the word "design" to suggest not a rigid plan, but a framework in which intelligent, rational, self-conscious life could emerge, and that is how I use it here, recognizing that intention or purpose might carry the nuance more accurately. (124)

To the theist or atheist, the scenario of the earth's evolving atmosphere must be something wondrous to behold. Whether such a miracle implies the existence of a superintelligent designer, or a benevolent deity, is another matter. There is clearly no proof here, but then again, science does not work primarily by proof, at least proof in the sense of Euclid or positive logic. (127)

To a theistic scientist, and perhaps even to God, a world with contingency is far more interesting than one devoid of it. Seen with the eyes of faith, the world seems to be organized with purpose, direction, a pervasive sense of movement toward higher organization, but not necessarily with a total blueprint. It is a universe of uncertainty and chaos. (129)

a fundamental role of contingency

It means that we have some freedom to shape the destiny of human civilization, including both the freedom and the power to end it through greed, selfishness, and downright carelessness. This is the implication of contingency. (130)

the universe is singularly and amazingly constructed to allow for the emergence of self-contemplative intelligence, a suitable home for humankind. To the theist, the heavens declare the glory of God, and the firmament exhibits God's handiwork. To the atheist, these marvels are mere facts, neither evidences nor pointers, and surely not proofs of God's intentions or designs.

But even an atheist must concede that our universe has a history, and part of that grand sweep of history includes the emergence of our earth as a habitable and inhabited planet, the specially suitable home for a humankind endowed with creativity, conscience, and self-consciousness. And when we look in detail at this history, we see the role of contingency which signals to the theologian that God has deliberately built an element of freedom into creation, which brings the awesome responsibility of choice to us, created in God's own image. (130)

As a contemplative human being I am impressed by the creative achievements of humankind, form the paintings at Lascaux to the *Divine Comedy* to the Ten Commandments and theory of relativity. Perhaps the purpose of the universe is simply for contemplative observers to exist in awe of a superintelligent designer; perhaps it is

something more. For the universe as a whole to make sense. I hold with those who favor purpose. The search for that ultimate purpose is a serious, essential, and often deeply mysterious, part of our earthly pilgrimage. (131)