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THE WORD OF THE BIBLE AND SCIENCE Part 2(Emil Brunner)

"Let me use a comparison to illustrate the difference between the conceptions. For real faith in the Bible, such as we find in the Reformers, the Bible is like a certain area of ground in which you can find gold; now, go and search it! But orthodoxy declares: (All the ground is gold, ground and gold are identical; you need not search, you have it as a convenient possession. There can be no doubt that for polemical purposes this later doctrine was handier. But into what disastrous difficulties it led the believer, soon became evident."

Emil Brunner was Professor of Theology at the University of Zurich. This extract is taken from his The Word and the World (1931). Student Christian Movement Press, Bloomsbury Street, London, pp. 82-94.

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Curious Creatures
SEXUAL MASOCHISM IN THE BRISTLE WORM
Mike L Anderson

"The tabloids know that their readers love to read about the life styles of famous eccentrics. But, humans look quite tame next to the habits of certain animals." And these are not the habits of a few individuals, but the norm for entire species and groups of animals. This column will introduce some of the more outlandish organisms to see what moral lessons can be drawn from their behaviour. Think of it as a kind of bestiary of the bizarre. This was common practice in medieval times, but has fallen out of favour with the emergence of modern science, partly because it was done naively and fantastically. But, it is unfortunate that we have thrown out the good with the bad. Evolution has taken millions of years to hone the adaptations of animals. It may be humbling, but surely they have something to teach us? Jesus Christ, himself, said "Look at the birds of the air; they do not sow or reap or store away in barns, and yet your heavenly Father feeds them. Are you not much more valuable than they? Who of you by worrying can add a single hour to his life?" (1). Surely Jesus did not intend us to restrict our attention to the birds of the air. What about the fish in the sea or the worms in the soil? And so, this column will begin with a humble worm.

Courtship in the bristle worm *Platynereis megalops* includes dinner. But, it is the female alone that dines and it dines on part of the male! The posterior region of the male is

its sexual apparatus. The male swims about the female enticing her to feed. She pursues the male, chomping off and swallowing his nether parts. The sperm travels down her alimentary canal into the abdominal cavity and fertilizes her eggs! (2). How is that for extreme mating? How did it evolve? Development of a posterior sexual region is common in bristle worms (3). In other bristle worms these break-off and move independently. A wiggling male part must look very much like prey to a female with a limited brain! Females that could ensure that ingested sperm would still fertilise their eggs would be selected.

However it happened, evolution has led this bristle worm into an odd situation and also led it to make the most of it. Is there a lesson for us in this? Rather than complaining about this non-ideal world, we can take a leaf from the humble bristle worm, and aim to make the best of our predicaments. The apostle Peter said, "Dear friends, do not be surprised at the painful trial you are suffering, as though something strange were happening to you. But rejoice that you participate in the sufferings of Christ, so that you may be overjoyed when his glory is revealed"(3). If worms and the Son of God are not strangers to suffering, why should God's children be surprised at it? We see dimly what God is doing is now, but there will be a happy time when all will be revealed.

Notes

1. Matthew 6:26.
2. Wendt, H. (1965) The Sex Life of the Animals. Simon and Schuster, New York. p. 97.
3. Barnes, R.D. (1974) Invertebrate Zoology W.B. Saunders, Philadelphia, p. 275.
4. 1 Peter 4:13.

NEWS BRIEFS (From the Internet)

* A femme fatale for the fearsome ant

Ants are so successful and such fearsome predators that insects that can live with them are very likely to flourish. As many as 100 000 species of insect have adapted to coexist with them. Ten percent of these are not content to just live under the protection of ants. They cheat. These social parasites benefit themselves at the ants expense. The gorgeous large blue butterflies (Maculina) epitomise the wily art. Their caterpillars secrete a hydrocarbon perfume that mimics the colony pheromone and tricks red ants (Myrmica) into taking them into the nest. Two different strategies have subsequently evolved. In the "predatory" species the caterpillar gorges itself periodically on ant grubs. In the "cuckoo" species the ants have become persuaded to feed them directly even sacrificing their own brood.
(Nature 2004 432:283)

* The great unknown is in your backyard
More is known about outer space than the soil in your garden.
Using mathematical techniques astronomers confidently estimate

that there are 100 billion stars in our galaxy. Trying to infer microbial diversity in soil in contrast has proved remarkably difficult. But now using a suite of techniques it has been estimated that there may be as many as 10 billion prokaryotes in a mere gram of soil. And there could be 1 million distinct prokaryote taxa. This is assuming, of course, the soil is free of chemical contaminants.
(Science 2005 309:1331)

* New light on dark matter?

Dark matter makes up most of the universe and is key to understanding the origin of the large-scale structure of the universe. Yet its nature remains unknown. Astrophysicists are on the trail of the leading candidate for dark matter - the lightest supersymmetric non-baryonic particle called the neutralino. It is its own anti-particle and can self-annihilate. Many experiments are being conducted to try to detect the elusive neutralino within a decade.
(Nature 2005 433:389)

* The prevalence and consequences of child sexual abuse

Worldwide, at least 20% of women and 5-10% of men were sexually abused by adults during their childhood. These figures are probably underestimates because of memory loss and under-reporting. Child sexual abuse has been linked to serious mental and physical health problems including depression, suicide, substance abuse and criminality in adulthood. In most cases the perpetrator is a family member or friend of the family. Research has been hampered by a lack of multi-disciplinary integration, media emphasis on false allegations rather than false denials and unstated value judgements.
(Science 2005 308:5721)

* Global-warming - the evidence accumulates

Different climate simulation models are fingering humanity as the culprit in global-warming. The models show that natural causes such as changes in solar radiation and volcanic activity cannot explain the observed patterns of ocean warming. The oceans are acting as a heat sink - 84% of the total heating of the earth since the 1950's has been in the oceans.
(Science 2005 309:254)

* How soccer should inform particle physics

Particle physics has had, through quantum theory, great success in explaining atomic theory, the periodic table of the elements, chemical bonding. This, in turn, has led to great success in understanding molecular biology through to the functioning of living organisms and through neurophysics to the functioning of the brain. Does this make fundamental physics potentially all-powerful as an explanatory principle. No. According to cosmologist George Ellis there are facts in the universe that bring limits to the power of the reductionist programme. One such fact: soccer. The human world is full of such phenomena that embody the outcomes of intentional design. How is it possible to predict these phenomena from random fluctuations in the early universe 14 billion years ago?
(Nature 2005 435:743)

* Converging on the simplest possible life

There are two approaches to determining the simplest possible life says Eörs Szathmary - the top-down and the bottom up. In the top-down approach parts of the genome of a basic organism such as the bacterium Buchnera are removed to determine what minimal set is required for the organism to function. A provisional minimum genome size of 200 genes seems required. The bottom-up approach begins with genes and examines their duplication and divergence. Both approaches have reached the conclusion that the first life used RNA not DNA in its biosynthesis.
(Nature 2005 433:469)

* Bird navigation - how do they do it?

Birds are renowned for their navigation skills. Even with missing environmental cues - no parental guidance, night-time flying (so that they do not have the sun to guide them), cloud (so that they cannot use celestial cues), high latitudes (so that there is a large discrepancy between magnetic and true north) and featureless terrain they still manage to successfully migrate thousands of kilometres. How do they do it? It turns out, says James Gould that they have several compasses, a map sense and in the case of juveniles an innate starting direction. They switch between systems when necessary and they periodically calibrate one compass against the other. The result is a remarkably sensitive and accurate navigation system.
(Current Biology 2005 15:R653)

* Communication - the secret weapon in bacterial war

Communication is vital to successful war and bacteria know it. They use diffusible chemicals to signal to allies, says Stephen Winans. The concentration of the signal molecules called acylhomoserine lactones increases with bacterial population density. They are thus able to sense how many of their species are around them. This "quorum sensing" as it is known, triggers sets of genes required for a co-ordinated war effort - such as DNA transfer, production of toxins and infection of their host. The toxins are released in vesicles that fuse with the lipid bilayer of target cells.
(Nature 2005 437:330)

* Computers with a different spin?

Microchips in computers function by controlling the flow of electrons through transistor switches. The system is binary. Signals are represented by the presence or absence of electrical charge. But electrons also have the quantum property of spin. Spin can have two directions known as "up" and "down." Using spin and charge in computers has such benefits as lower-energy requirements, higher speed and planar magnetic wires that are less than a micrometer in width. Prepare for your PC becoming seriously obsolete!
(Science 2005 309:1688)

Humour from the web
CRIME CAPERS

Flush him out with humour

A burglar broke into the home of a well-known comedian. No sooner than his search began, the comedian returned with a fellow actor. The burglar slid under the couch. The two comedians settled down to an evening of jokes. Eventually, the burglar could hold it in no longer and guffawed with laughter. He was still laughing when the police came to arrest him.

A most amazing burglar

The long house-breaking career of a burglar in New York came to an end in 1922. The reason for his success: he was blind! Since he worked completely in the dark, he did nothing to arouse suspicion.

* How not to defend yourself.

A man accused of assault took the witness stand. When asked whether he had hit the victim in the eye, he replied, "Which eye?" The defendant was convicted.

A man is accused of bag-snatching. He takes up his own defense. The question he put to the victim: "Did you get a good at my face when I grabbed your bag?" He was convicted.

Source: Matthews, R. (1988) Amazing Scoundrels and Villains
Octopus Books, Ltd., London.

Spot the Fallacy

MISUSE OF ANALOGY OR GOD IS NOT AN INTERIOR DESIGNER

Mike L Anderson

Paley famously argued that just as you would infer a watchmaker from a watch, so you would have to infer a Designer from the structure of living things. Since the philosopher David Hume and the father of evolutionary theory, Charles Darwin, the design argument has fallen out of favour. Recently, it has threatened to make a comeback. The idea is that just as a human-designed machine (such as a mousetrap) cannot function with any of its parts missing, so the structures of living things, particularly at the sub-cellular level, cannot function with any of their parts missing. The structures are said to be "irreducibly complex." They cannot have arisen naturally it is argued, and therefore must have been intelligently designed.

There are serious difficulties with the argument.

Logically, the trouble is that of misuse of analogy. The analogy breaks down in key respects. As Hume (1) argued, if you are going to employ this analogy, why infer just one Designer? Why not many, since many humans are behind the design of a watch? And why not infer that the Designer has eyes, a nose and a mouth? The argument presumes that God is similar to humans. But, as logician Capaldi says, "The more we make God like a human agent the more we run the risk of falling into anthropomorphism" (2).

Theologically, the trouble with the analogy is that it leaves us with a designer that bears scant resemblance to God who supremely revealed himself in Christ. There is a creature that reaches three metres in length, is armed with two circles of 22-32 hooks, produces millions of eggs that can remain viable for weeks and has many other features that make it very successful. Take any of these features away and it is likely to become extinct. Is it intelligently designed? If so, what can be said about its designer? The creature is Taenia solium, the pork tapeworm and it causes immense suffering and death in humans (3).

But the analogy breaks down most clearly at the cross. The crucifixion of Christ is the greatest revealer of God's genius. "So when we look at the cross," says theologian John Stott, "we see the justice, love, wisdom and power of God. It is not easy to decide which is the most luminously revealed, whether the justice of God in judging sin, or the love of God in bearing the judgement in our place, or the wisdom of God in perfectly combining the two.... For the cross is equally an act, and therefore a demonstration, of God's justice, love, wisdom, and power"(4). But this, God's supreme revelation, was not intelligently designed. Humans designed the cross and it was cruel and stupid - or at least ignorant. According to Paul, "None of the rulers of this age understood [God's secret wisdom], for if they had, they would not have crucified the Lord of glory (5). To say that God intelligently designed the crucifixion of Jesus is to accuse him of culpability in his Son's death. However, the cross was intelligently pre-ordained. In God's genius he foreordained that wicked men would put Jesus to death and usher in his salvation plan (6).

Curiously, proponents of intelligent design seem preoccupied with the interior of organisms - particularly the molecular level- and tend to ignore the gross anatomy of organisms in their search for evidence of a designer. This is like being preoccupied with the interior design of offices while ignoring the architecture of the whole building. Scientifically, the trouble with the argument from design is that the structures of living things are not irreducibly complex. For example the eel sperm flagellum has several parts missing that are found in the flagella of other organisms. Yet, the eel sperm flagellum is quite functional (7). Furthermore, complex structures can evolve through the co-opting of existing parts for a different function. The cytochrome c oxidase proton pump is a molecular structure with many parts. Researchers have found that some of the proteins in the pump are similar to a bacterial enzyme (8).

With so much going against it, why does the argument from design have so much appeal? Perhaps it is because we want to fashion a designer after ourselves rather than trust in the Creator who condescended to become like us. A god that we arrive at feeds our pride. The One who arrived in Bethlehem destroys it.

Notes

1. Hume, D. (1948) Dialogues Concerning Natural Religion., Hafner Pres,, New York, p. 37-41.
2. Capaldi, N. (1987) The Art of Deception: An Introduction to Critical Thinking. Prometheus Books, New York, p. 115.

3. Schmidt, G.D. and L.S. Roberts (1989) Foundations of Parasitology. Times Mirror/ Mosby College Publishing, pp. 355-357.
4. Stott, J. (1989) The Cross of Christ. Inter-Varsity Press, Leicester, England p. 226.
5. 1 Corinthians 2:8.
6. Acts 2:23.
7. Miller, K. (2003) Answering the Biochemical Argument from Design. In "God and Design: Ecological Argument and Modern Science." Neil. A. Manson (Ed.), Routledge, London, pp. 298-299.
8. Ibid., pp. 296-297.

* Feature article *

THE WORD OF THE BIBLE AND SCIENCE (part 2)

Emil Brunner

THE BIBLE AND SCIENCE

Let me use a comparison to illustrate the difference between the conceptions. For real faith in the Bible, such as we find in the Reformers, the Bible is like a certain area of ground in which you can find gold; now, go and search it! But orthodoxy declares: (All the ground is gold, ground and gold are identical; you need not search, you have it as a convenient possession. There can be no doubt that for polemical purposes this later doctrine was handier. But into what disastrous difficulties it led the believer, soon became evident.

At the same time, this comparison may lead to misunderstanding. The gold-seeker knows beforehand what gold is; he who looks for God's Word in the Bible does not know it beforehand. It would be a great mistake if you interpreted this comparison as meaning that with our reason we could poke about in our Bible and pick out what is rational as the Word of God. There is no question of God's Word in that case, for what I can know as rational is not God's Word, but general timeless impersonal truth. My meaning is this, that in the Bible you find the one paradoxical non-rational message of the living God and His covenant with man, of the one Word in which He reveals to us His secret will, the message of the Creator and Saviour, of Jesus Christ the Redeemer, the one Gospel of the holy loving God and His coming to man. But this message is given in human form; this infant Christ is laid in a crib of wood which is filled with straw. This Gospel is witnessed to by men, who doubtless are entangled in human errors and encumbered with earthly imperfection The Son of God who came in the likeness of man in the form of a servant, also gave His Word in the form of a servant. That is we find so many errors and inaccuracies that is no better than what man has said and done in other places and in other times; The Bible is full of that frailty and fallibility characteristic of all that is human. But this earthen vessel was designed by God to become the receptacle of peculiar contents, the bearer of a history and a message which no other human book contains. He who confuses the message with the material in which the message is written is foolish. But he who, because of this earthly material, despises the message is

much more foolish. The former, the orthodox after all is concerned about the message, and for its sake he thinks the material to be holy: which is (so to speak) a piece of childish folly; but the other throws away the pearls because they are covered with sand. This is what the rationalist does; it is what has been done since the time of the eighteenth century Enlightenment. Because of the earthliness of the vessel, the contents have been thrown away. In freeing Himself from the blind authority of orthodoxy the modern man emancipated himself from the lawful authority of the Scriptures, and by so doing has cast off Christ. The Bible has now become a mere document of human religion and as such means nothing to faith. For a document of religion, were it even the greatest, has no importance for my faith. It is an historical or aesthetic object, an object of admiration, like the Egyptian pyramids; but it has nothing final to tell me. Nobody has anything final to tell me save God Himself in His Word.

V

Now, if the modern man is done with the Bible the Church is not free from blame in the matter; it is a state of affairs which is largely due to Churches' orthodox misunderstanding. The result of the misunderstanding is the doctrine of the infallibility of the Bible word, the so called doctrine of verbal inspiration. By it everything in the Bible was canonized - the historical narratives, the cosmological, zoological, anthropological world-view of the old Semitic civilization and of antiquity in general. Of course this involved an inevitable conflict with science, after the Church, misled through this orthodox understanding, had prevented scientific progress for many centuries. The separate phases of this conflict are known to you; I mention only the most important. The first stroke came from natural science: the world-view which had been created by Copernicus, Galileo, and Newton was irreconcilable with that of the Bible, and the Bible had to give way. Then came the development of historical criticism. Together with a second blow from natural science - the victory of biological evolutionism, the widening of the dimensions of time, the new data of pre-historic anthropology, the better knowledge of old Semitic and Egyptian civilizations, the scientific investigation of the Biblical accounts with their contradictions and primitive conceptions. All this could not but shake trust in Biblical authority to its foundations, and break down completely the Biblical world-view. As the last phase of dissolution came the Comparative Science of Religions, which gave the religious conceptions of Israel and early Christianity their place in the general process of the history of religion, and through its comparative parallels completely undermined the traditional view of the Bible.

Now, after the earthquake is over, we stand before the ruined city and gather together what is left. Reconstruction seems excluded. We cannot go back. The Biblical world-view, cosmological and historical, has gone for good. We know that the world was not created a few thousand years ago, but that we have to reckon with billions of years, and even so do not reach the end. We know that the history of our earth, although counting its millions of years, is one of the recent events in world-history. It is a well-grounded hypothesis that a more or less continuous pedigree traces the origins of humanity far

back into the animal sphere; we know that there never was a paradise on earth with Adam and Eve and the serpent; we know that most of the Old Testament pre-history is mythology not history, and that there is no unbroken chain of witnesses from Adam and Noah to Christ. But more, the picture of New Testament too has undergone profound changes; we have come to see the important differences between the Synoptic, the Pauline, and the Johannine tradition. We have learnt that, from the standpoint of history the Fourth Gospel, as compared with the Synoptic tradition, is much inferior, and even the synoptic tradition is very unreliable and full of contradictions. In a word: everything seems to be destroyed by science. How shall we be able to speak of Bible authority, of the Bible as God's Word, after our critical reason has torn it to pieces in such a fashion and made it like the rest of history?

Is not the only possible course that which has been taken by liberal theology and followed in many parts of the Church - - to give up the Biblical position and look out for a position above the shifting historical plane, as, for example, Albert Schweitzer, one of the leaders of historical criticism, recommends us to do? My answer is that to leave the Biblical position in order to reach safety above history means the same thing as abandoning Christianity. Either Christian faith is Biblical faith or it is nothing. Whether Biblical faith is still possible is another question which we can no longer avoid. What is the answer to be?

VI

This first of all: we do not intend to save as many pieces as possible out of this liquidation. We do not intend to enter defensive apologetics against natural science or history. Whether or not historical criticism has gone to far, at any rate we have to reckon with a situation which, through the work of criticism, scientific as well as historical, has been completely changed. But if after all we quietly consider this change of situation, the excited clamour of the attackers as well as of the defenders more and more appears as a senseless panic. What then has been destroyed? We answer: nothing of importance. Nothing except what had to be destroyed for the sake of faith, namely, the divine authority of what was really human. Nothing except (once more to use Luther's picture) the false idea that the crib, in which Christ is laid, is Christ Himself and therefore has a claim to the same authority for faith.

This identification of human witness and divine revelation is destroyed for good. Orthodoxy has become impossible for any one who knows anything of science. This I would call fortunate. It is safe to say that this catastrophe, which at first so terrified us, is nothing but a necessary deliverance from a misconception that for centuries has damaged faith, and even crippled it. In no sense has scientific criticism been able to encroach upon true faith in the Bible, in the sense which carefully distinguished from orthodox opinion, but which, it is true, has not stood quite clear of orthodox tradition.

If we hold fast to this truth that the Word of God is given to us only in human questionable form, it is a matter of course that Biblical criticism and Bible-faith or Bible-authority are not only reconcilable, but necessarily go together. Biblical

criticism is nothing but the act by which we recognize that the crib is not Christ, that the ground is not the gold, that God's Word is only indirectly identical with the Bible word, although we have the one only through the other. It is well known how Luther himself freely criticized the writings of the Old and New Testament, without being in the least shaken in his faith. When he used his critical understanding, he did what the pearl-fisher does when he wipes away the sand from his new-found pearl, to uncover its pure whiteness. He removed what covered the meaning of God's Word. He did what formerly they called "opening the Scripture." In order to open, he had to de-velop it, that is to take it out of its en-velope. In this sense criticism becomes a thoroughly positive element in the interpretation of Scripture. It is like chiselling off the incrustations of the past from an old inscription, to make it legible. No doubt we have to chisel off much more than Luther believed necessary, but the inscription has remained the same: Jesus Christ, the Word of God.

Above all, it is necessary to see the difference between the Biblical world-view and the message of Revelation.

Every world-view belongs, so to speak, to the language of a certain time, and with the time it changes. We can hardly call a world-view true; here, if anywhere, the pragmatic conception of truth is legitimate. A world-view is an instrument by which man makes himself master of the objects around him. Whether or not there is final truth in it, we do not know. Certainly we can never go back to the picture of it which antiquity had. But it is just as certain that we shall not abide by our present one. Faith, however, in its substance is independent of the world-view, although its expression is affected by it. Whether the radius of the world be the distance between earth and sun or has a length of millions of light-years, whether worldtime is reckoned by thousands or millions of years; whether man's origin is a biological process only with regard to the individual as antiquity thought, or with regard to the whole race as such, as we see it since Darwin- all this has very little to do with the message of creation and salvation, with the truth about the origin and destiny of man, which the Bible and no other sacred book proclaims. Let the scientists go on analysing and criticizing the human material in which that holy inscription is written, if inscription itself will not in the least be changed by such procedure. The vision of God which the prophets disclosed to us, the countenance of God which is unveiled to us in Jesus Christ, the name of the Creator and Saviour which He revealed, no science will ever touch. Even if I take as basis the most sceptical representation of the life of Jesus which may properly be called scientific, the face of this Man still remains such that through it and in it God shows me Himself and speaks to me His Word.

If to believe in the Holy Scripture means to regard it as the Indian does his Vedas, or the Mohammedan his Koran, i.e. as a divine oracle of doctrine, then through scientific criticism faith in the Bible is done away with once for all. But if by belief in the Bible you mean that you believe the Scriptures, the Old and New testaments are a testimony that Jesus Christ is the Word of God, then scientific criticism cannot touch it. It can investigate the material, it can and ought to make the inscription readable, but it can neither add to nor take

anything away from it. It is still what it was from the beginning - the unsealing of the divine world-purpose, of the mystery of creation, redemption and salvation.

If, however, science goes further and claims to prove that the message of the Bible is not essentially different from that of other religions or philosophies, and that the Gospel is the product of certain general conceptions of antiquity, it transcends its own limits; it proclaims as a result of scientific research what in fact is the product of a certain negative philosophy or prejudice. No one can be spared the struggle of seeking the meaning of the Bible for him, but this struggle is not one between belief and science; it is one between belief and unbelief. It is a struggle in which the greater scientific insight may be on the side of faith.

In closing, I come back to a remark made at the beginning. The real breakdown of Biblical faith in our modern time is caused not by science but by modern philosophy; by the fact that modern man does not want to acknowledge any authority outside of himself. Once we have seen that, we understand that this conflict between autonomous will and faith is in no sense a newcomer in history, but has been the theme of Christian history from its beginning. The conflicting parties have changed their names, and perhaps are clearer to-day than they were before - a fact for which we may be thankful. The core of the conflict is the question, whether man will remain his own lord in his reason or is willing to acknowledge God as his Lord. God the Lord, is the God of the Bible, the God who declares His name in Jesus Christ. Whether we obey Him or not is a question not of science but of life, and one in comparison with which all questions of science become insignificant.

Emil Brunner was Professor of Theology at the University of Zurich. This extract is taken from his The Word and the World (1931). Student Christian Movement Press, Bloomsbury Street, London, pp. 82-94.

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