

## ***Chapter 8 THE NATURE OF HUMANITY***

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**CONTENTS – CHAPTER 8**

|                                                                     |             |
|---------------------------------------------------------------------|-------------|
| <b>Chapter 8 – THE NATURE OF HUMANITY .....</b>                     | <b>8-1</b>  |
| <b>8.1 INTERFACING BIOLOGY AND THEOLOGY.....</b>                    | <b>8-3</b>  |
| <b>8.2 WHAT CONSTITUTES A PERSON—WHAT CRITERIA DO WE USE? .....</b> | <b>8-3</b>  |
| 8.2.1 Genetic anthropology.....                                     | 8-4         |
| 8.2.2 Neurophysiological anthropology.....                          | 8-4         |
| 8.2.3 Physical anthropology.....                                    | 8-5         |
| 8.2.4 There are other biological pictures.....                      | 8-6         |
| <b>8.3 SOME RESPONSES TO BIOLOGICAL ANTHROPOLOGY .....</b>          | <b>8-6</b>  |
| 8.3.1 To reinforce reductionism: proponents.....                    | 8-6         |
| 8.3.2 Retain outmoded theological models.....                       | 8-7         |
| 8.3.3 To revise presuppositions about humanity.....                 | 8-7         |
| <b>8.4 BIBLICAL ANTHROPOLOGY.....</b>                               | <b>8-8</b>  |
| 8.4.1 Perspectives.....                                             | 8-8         |
| 8.4.2 Nature of humanity.....                                       | 8-8         |
| <b>8.5 SOME REASONABLE CONCLUSIONS .....</b>                        | <b>8-9</b>  |
| <b>8.6 REFERENCES.....</b>                                          | <b>8-10</b> |

## 8.1 INTERFACING BIOLOGY AND THEOLOGY

There are two interfaces between science and human personhood, ethical and theological.

The rapid progress in reproductive technologies and of genetic knowledge has emphasised the profound ethical implications that arise directly from the technological power of modern biology. It is now more important than ever to be considered human, a person. There are increasing threats to survival. These ethical aspects will be considered later (chapter 10).

There is however another interface, a science/theology interface—that of using biological knowledge to interpret the nature, meaning and value of “human life”. This has been emphasised by three recent developments in biological science.

**Firstly**, with the Human Genome Program (HGP) we have the capacity, not only to identify genetic disease and potentially to use both somatic and germ cell line therapy, but also to identify completely the human genetic constitution. Never before has humanity been potentially laid so bare.

**Secondly**, with the appearance (in February 1997) of “Dolly” and of somatic cell nuclear transfer we have the clear possibility of human cloning—of Xeroxing persons.

**Thirdly**, the investigation of brain function has revealed a tightening of the mind/brain link—the mind (soul) being integrally bound to the body (brain), rather than having any independent existence.

Science, theology and ethics are thus inextricably bound up in the consideration of the nature of persons. There are also implications and the threat of possible conflict between developing biological science and some aspects of Christian belief.

In a response to these scientific issues, many religious authorities as well as politicians are unconsciously joining the scientific reductionists in bowing to a genetic determinism with regard to the nature of persons. In the opinion of many religious authorities human cloning would be “a clear violation of the uniqueness of human life”. Even Bill Clinton at a press conference at the Oval office in March 1997 indicated that cloning was more than mere science it was “a matter of morality and spirituality as well...”. He described those who might want to replicate themselves as “trying to play God”. Cloning is seen therefore as a religious issue.

What it means to be a person needs to be examined however a little more critically.

- **What does it mean to be human and when do we become human?**
- **Are these defined biologically, psychologically or spiritually?**
- **How do these perspectives intersect or do they conflict?**

## 8.2 WHAT CONSTITUTES A PERSON—WHAT CRITERIA DO WE USE?

There is little argument that humans should be treated differently to animals. The fact of human rights etc. is universally agreed. There is also general agreement that a moratorium should be declared on **human** cloning, to allow some of the issues to be evaluated.

But the **basis for personhood** is not at all clear. What constitutes a person?

In trying to address these questions we need to consider a number of inputs from various areas, genetic, biological, behavioural and theological, in order to get adequate answers.

There are a variety of anthropologies, derived from different standpoints. None of these are complete in themselves, but form part of a complete picture of what it means to be human.

### **8.2.1 Genetic anthropology**

This is, biologically at least, the most fundamental level. Genetic technology has now made it possible to determine, who we are in terms of our genes. These are not magical life entities, but basic chemical (DNA) compounds. Genetic anthropology thus focuses on our fundamental chemical basis.

#### ***The genetic code***

Watson and Crick in 1953 reported the chemical structure of DNA. Two strands of DNA were linked by four bases (Adenine, Guanine, Cytosine and Thymine). These were linked in such a way that Adenine/Thymine and Cytosine/Guanine were always bonded together so that the two strands are complementary. The four bases strung along a single strand could be arranged in a variety of sequences of three, which coded for protein synthesis, each set of three representing a code for an amino acid to be linked in a particular sequence to form a protein.

There was thus a simple genetic code, capable of an almost infinite variety of sequences—an alphabet of four letters (bases) forming simple three letter 'words' strung together in longer or shorter 'sentences' that made up a gene, coding for protein synthesis. Life had been demythologised, reduced to chemistry.

Thus all biological species from the most simple organisms through to and including humans have a common genetic basis, differing only in detail. There are differences in degree only from humanity to primates; 98% of the DNA is common. All living things have a common history in evolution. This commonality is emphasized by the Human Genome Program which potentially lays bare our complete human genetic constitution.

#### ***Human Genome Program***

Costing \$3 billion and based at NIH in Washington, but with contributions from many countries, it aimed to determine the complete human genetic constitution by 2005. There are 23 pairs of human chromosomes, 1.5 million "potential" genes, but about 20,000 actual genes. These have been sequenced and localised and their function determined. The project ran ahead of schedule with a draft sequence announced in 2000. The complete sequence was published in 2003. The program raises important questions about who we are as persons. We have been potentially laid bare.

#### ***Is this a basis for the consideration of human worth?***

We cannot deny that our genetic uniqueness depends on only a 2% difference in DNA from higher primates. But we must resist the temptation to reductionism—to reduce our personhood to a purely genetic frame, expressed simply in a rearrangement of the order of bases in our genes. Genetics provides only a partial anthropology; however it is anthropology viewed from the genetic window. There are other windows.

### **8.2.2 Neurophysiological anthropology**

#### ***Humanity characterised by self consciousness—mind***

There is an emerging new reality in humanity—not possessed by lower animals. This is the property of self consciousness, the mind. This reality however is expressed through the body (brain) and cannot be considered as a separate "substance" from the body. It can be the subject of investigation and observation and is now seen to be integrally related to the brain, not separate from it.

**Recent developments have seen a closing of the mind/brain link**

This is indicated by a number of facts.

Physical aspects of mind can be investigated.

The mind is clearly expressed through the brain and does not exist apart from it. This is illustrated by many observations of increasing sophistication.

Broca 150 years ago described areas of the brain associated with speech problems, the ability to understand or communicate.

Phineas Gage, whose dramatic injury to his frontal lobes resulted in definitive personality change.

Psychotropic drugs have an effect on personality as does schizophrenia. These can both be linked to physical or chemical brain changes.

Differing levels of various transmitters (changes in the chemistry of the brain) are associated with mood disorders.

Neurophysiological changes accompany the perception of faces etc. in experimental animals and can be tied in with cognitive activities in humans. Even spiritual and creative artistic experience can be related to changes in the temporal lobe such as temporal lobe epilepsy.

Mind thus cannot exist independently of the physical substrate of brain<sup>1</sup>.

Mind is not however just an epiphenomenon (a symptom) of the brain. It does have a separate reality. Mind (soul) is expressed through the brain but is not identical to it.

There is no basis for a separate existence (substance) of the "soul"

This is not to say that the concept of 'soul' as the "I", the person, is not helpful, but simply to say that neuroscience gives no basis for Cartesian Dualism—the ghost in the machine', the separation of matter and soul (mind) as two entities. Although this would be the contention of most neuroscientists there are a few that still espouse a dualist (body/mind) view. Foremost among these has been the Nobel Laureate, Jack Eccles.

Jettisoning dualism and considering that the mind is **expressed** by the brain is not to endorse monism, the contention that the mind is **reduced** to the brain.

**8.2.3 Physical anthropology**

This approach emphasises humanity as a product of human evolution having a unity with lower animals but evolving both in a genetic sense and in a cultural sense. These aspects may be expressed under the following headings:

**Human evolution**

One race, but one with biological life—Australopithecus, Homo erectus, Homo Sapiens being a series. Evolution however includes not just physical characteristics, but also religious capacity, language capability and also the generation of self-consciousness and freewill. The major physical aspect of human evolution is the increased size of the cerebral cortex, but this has implications for the non physical (mind/soul) characteristics which are revealed by cultural anthropology.

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<sup>1</sup> Should one say, rather, that mind cannot **function** independently of a physical substrate?

**Genetic and cultural evolution—Ayala**

Both the capacity for language and the capacity for freewill (rather than determinism) may be the result of both genetic and cultural evolution. The evolution of the physical faculties for speech may be accompanied by the development of specific language skills determined by cultural factors. That is, the capacity for speech is genetic but the capacity to speak, for example, Japanese, is cultural.

**Implications**

These conclusions, or this picture of humanity, may be threatening for some Christians. However it needs to be emphasised that physical anthropology does not give a complete picture of humanity any more than does genetics or neuroscience. Anthropology does not say that humanity is not created by God, but rather that an explanation of origins, including higher (unique) aspects of humanity can be explained by natural mechanisms and have a continuity with lower animals.

**8.2.4 There are other biological pictures**

Physiological, psychological, social etc. These are all different biological pictures. They give different and complementary views of humanity. None give a complete view, they complement each other. All are needed to provide a complete view. In many ways as we move in any consideration of humanity from the most basic (genetic) picture to those with complex systems (social and religious) we see new and emergent properties appearing that cannot be described or reduced to the level of physics and chemistry or to physiological systems or to brain responses.

**8.3 SOME RESPONSES TO BIOLOGICAL ANTHROPOLOGY**

The fundamental question is, do these pictures exclude a theological anthropology or are there serious conflicts with such a picture?

It is an important issue since a theological anthropology, informed by Scripture, forms a basis for our concept of human worth and dictates our ethical restraints with regard to the manipulation of humanity.

Consider three possible responses which have been adopted.

**8.3.1 To reinforce reductionism: proponents**

This may be expressed in the context of various biological approaches. Let us consider the contentions of three reductionists, one from evolutionary biology, one from social biology and the third from genetics and neuroscience. All are vocal exponents and all seek to reduce humanity to its basic component parts

*Dawkins: DNA — the "River out of Eden"*

Considers humanity as essentially a DNA survival machine. DNA is the river that flows out of Eden. We are nothing more than "selfish genes". Aesthetic, moral and spiritual properties are reduced to these.

*EO Wilson: Genetic determinism — behaviourism*

Considers all human behaviour to be *determined* by the chemical (genetic) message of the DNA within cells.

*Crick — "The Astonishing Hypothesis"*

Relates to mind and DNA. Crick's astonishing hypothesis is "That you, your joys and sorrows, your memories and your ambitions, your sense of personal identity and freewill are in fact no more than the behaviour of a vast assembly of nerve cells and their associated molecules". Susan

Greenfield in her recent TV series promotes this view. Spiritual and intellectual properties *arise* in the brain. There is no place left for the mind or spirit. All are reduced to the physical brain.

### ***Critique of reductionism***

It can be experimentally asserted however that we are shaped by both nature and nurture, by genetics and environment. We are not described even biologically by chemistry (even DNA chemistry) alone. There is an emerging complexity at each level of biology. The description at each level is complementary. The whole picture being more than the sum of the parts. The physiological description cannot be reduced to a physico-chemical, or a behaviorist view to a genetic one. There are many levels of organisation. There are many different scientific viewpoints from which we can observe and define humanity, literature and theology also.

### ***Emergent realities: levels of organization***

This can be illustrated by the following diagram adapted from Peacocke (1993). See also Murphy and Ellis (1996).

- LEVEL 1 – PHYSICAL: physics, chemistry, biochemistry, *linked via DNA and molecular biology with*
- LEVEL 2 – BIOLOGICAL: cytology, cell biology, physiology, ecology, *linked via cognitive sciences (neuro biology) and sociobiology (behaviour genetics) with*
- LEVEL 3 – BEHAVIOURAL: consciousness, cognition, reasoning, social psychology, *linked via philosophy and theology to*
- LEVEL 4 – HUMAN CULTURE: religion, linguistics, arts, worship, morality.

*Each level is expressed through the mechanisms of the lower levels but is not reduced to them. Each level represents a new reality more than just the sum of the individual constituents.*

### **8.3.2 Retain outmoded theological models**

*A second response is to retain outmoded theological models* The second response to the developing biological picture of humanity is to adopt a siege mentality, to cling to outmoded models that are based not on truth but on presuppositions, rather than to reexamine these models.

#### ***Conception, genetics and the soul***

Many Christians consider immortality to be intrinsic, an expression of the presence of a spiritual substance infused at conception—a soul. It needs to be asked whether this is consistent with biblical theology or just an overhang from Platonist metaphysics. It certainly presents a conflict with the modern scientific understanding of mind.

#### ***Body, mind and spirit – dualism or tripartite humanity***

Humanity as body and mind or as body, mind and spirit, give a fragmented view of humanity which cannot be sustained by either biology or biblical theology. This does not mean we must espouse reductionism, but we do need to revise our presuppositions. We need to review and not therefore reject theological (biblical) anthropology.

### **8.3.3 To revise presuppositions about humanity**

We need to learn from history. Galileo forced a re-examination of concepts of a central earth as Darwin did of a static creation. There is a need to relook at

biblical revelation with respect to humanity and to determine what is the theological picture of humanity; to reject a dualist understanding, but to consider the reductionist implications of a purely monist model.

## 8.4 BIBLICAL ANTHROPOLOGY

### 8.4.1 Perspectives

Scripture views humanity from a different perspective than does biology. It is concerned with **purpose**, not description or mechanism. Further, Scripture **complements** but does not conflict with biological pictures of humanity. It provides both a **context and a limitation** to biological technology. Humanity is both the **subject and the object** involved with technology. What protection do we merit? What right have we to play God?

#### **Essentials**

Several key elements can be highlighted. Humanity is created by God, is part of the created universe, but is not God. Humanity is one with nature and animals. There is a continuum in the Genesis 1 & 2 record. Humanity is however made in the "image of God". Therefore it has a special place in creation. "Imagio Dei" is used sparingly in Scripture. It does not imply creation in God's "physical image", but there are several aspects that are involved. These include self consciousness i.e. mind, freewill, self determination, moral responsibility, character. Two aspects in particular however are paramount.

#### **Relationship, Gen. 1:26–28 and Gen. 2, 3.**

There is a three level relationship. Humanity is created in relationship with humanity, (male/female), with the rest of creation, and with God.

#### **Representative "tselem" –image in the market place**

To look after and care for the whole of creation. In Judeo Christian theology, humanity has been elevated not to a centre stage role to dominate nature as frequently caricatured, but as a steward to look after the interests and to care for the whole of creation. "Playing God" or "interfering with nature" are emotive terms often used in the genetic debate, but need to be seen in the context of this stewardship role. Scientists have a theological mandate to act (but not a mandate to pursue an agenda that is contrary to principles of justice and respect for humanity as the object of their technology) as part of a theology of stewardship.

### 8.4.2 Nature of humanity

What does scripture say about it? What about the soul? See Brown et al. (1998); see also Crick "The Astonishing Hypothesis".

#### **Gen 2:7 "God breathed... became a living being"**

Humanity is of the earth—at one with nature. "Earth to earth" is emphasised in the funeral service. Humanity is given life by God: "nephesh" means life (not soul), cf. Gen 1:21. Life, emotions and heart, are all involved and are frequent translations of "nephesh". The picture is of a unity, given life by God, one person made in the image of God. The Hebrew view of man was a very unitary one, dependent for life and immortality on God. We are embodied "souls", not dual entities. "Soulness" represents the person, the "me", the essential nature of humanity, but is not separate or distinct from it.

#### **New Testament**

Greek culture was Platonist giving rise to a dualist or triist model of humanity. Humanity was envisaged as having both a spiritual and a somatic component. The spiritual component was eternal and survived, while the somatic was

downplayed and evil. NT scriptural terms are derived from Greek culture, but the NT concept of humanity does not differ from the Hebrew unitary view of humanity. Body (soma), soul (psuche), spirit (pneuma) represent three aspects, three views, of the one person. They can be considered as different **aspects** of one person not as different parts or substances. Christian immortality and hope does not reside in an immortal soul but in the resurrection (1 Cor. 15; creeds) of the whole person.

Bube (1995) sets it out well. Humanity is viewed from three perspectives.

| TERMS/MANIFESTATIONS   | FIELDS                  | CHARACTERISTICS                      |                |
|------------------------|-------------------------|--------------------------------------|----------------|
| <b>BODY (soma)</b>     | Chemistry<br>Biology    | DNA<br>Genes                         | Looks human    |
| <b>SOUL (psuche)</b>   | Psychology<br>Sociology | Self Consciousness<br>Emotions, Mind | Acts human     |
| <b>SPIRIT (pneuma)</b> | Theology                | Spiritual                            | Relates to God |

Together we get a picture of humanity. Thus biblical views are not contrary to biological views.

There may however be a need to **reassess the presuppositions** held by some Christians and also by non-Christians about Christian views of humanity.

### 8.5 SOME REASONABLE CONCLUSIONS

Biology and theology give different, but not contradictory, views of humanity. They are not in conflict although certain presuppositions may be. They represent complementary views.

A biblical understanding of humanity confers a mandate on humanity to manipulate nature. Such a mandate is not intrinsic, it is related to humanity’s place in creation. The theological picture of humanity also sets limits for this manipulation, again related to the place and potential of humans made in the image of God.

Theological anthropology is **informed** by the scientific understanding of humanity as exposed by biological study. It is not however **replaced** by the biological view of humanity. Rightly understood a biblical anthropology has much therefore to contribute to a full picture of who we are as persons and is discarded at our peril as we move into the new territory of molecular genetics with its increasingly powerful technology.

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