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Does the DNA Make the Human Person Unique?

Lontum V. Charles¹

¹ Ph.D Fellow, Catholic University of Cameroon CATUC Bamenda, E-mail: verbec@yahoo.co.uk

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Abstract

The concept of human nature has over the years been problematic. From the Aristotelian-Thomistic view, the human person is distinguished from any other being because of his rational nature. This view has been challenged today from different angles. The reasons for the challenge vary but the central question remains: who is the human person? What is human nature? The answer to this fundamental question provokes other areas or fields of enquiry. Today more than ever before the scientific explanation of the distinctive characteristic of the human person is interesting. Graeme Finlay in his article "The Emergence of Human Distinctiveness; The Genetic Story," clearly demonstrates that the DNA can scientifically tell us more about human nature. We are firmly rooted in the biological world. Our gene can provide the substrate for all that we are. This article attempts to affirm this view but states that this perspective is insufficient in establishing the reality about the human person.

Keywords: DNA, Genome, Human Distinctiveness, Genes, Chromosome.

Introduction

The problem of the value of the human being is tackled in many fields like in politics, in law, in anthropology, in religion and in philosophy. But in philosophy the problem of the value of the human being doesn't featured as in those other disciplines of knowledge. Special ethics, an ethical branch of philosophy, takes a more practical turn when it deals with the value of the human being because it goes from physical human being to the spiritual person that he is. The question of what is special about human being draws us to reflect on the value of the human being. Our preoccupation is to look at the value of the human being as emphasized by philosophers throughout the history of philosophy; and for the sake of knowledge we shall bring the contribution of religion to the understanding of the value of the human being.

The problem that this paper will try to answer is does what makes a human person distinctive rest on the DNA? What part does the Genome play in making us who we are? Are we beings distinguished by DNA or is there something more that makes us unique? This paper will first of all present the concept of the genetic story as a distinctive characteristic of the human person. The second part will try to make an appraisal of such a view. The human person is more than the DNA. The final section will draw out some of the implications for a wider understanding that arises from the knowledge of our genetic substrate as well as look at the philosophical development of this theme.

AN UNDERSTANDING OF THE CONCEPT OF DNA

Genes that make us human

A comparative study of human origin has been limited to the anatomical features of the human being. If nothing distinguishes us from other beings, then the DNA does. DNA sequences can be translated into the properties of living organism. "This applies to the activities of the brain which is central to the consideration of human distinctiveness."¹ However, the coding sequences of "genes expressed in the brain do not seem to have change more rapidly on the human lineage than they have on the chimpanzee."² In recent time the study of genes shows that "the genome in human beings undergoes rapid change than in any other gene lineage. "The single sequence most highly altered in humans is one of these enigmatic segments of DNA. It is expressed in brain and reproductive tissue."³ When human beings and chimps are compared the divergence of gene expression in the brain is less than that in other organs. As Finlay states;

It will be a huge task to demonstrate that changes in gene expression in human brain tissue are a cause and not merely a consequence of other developmental changes. Clearly, the unique *potential* of the human brain must be specified by the human genome, but the *realization* of the brain's potential is not genetically determined.⁴

This means that genome is not static. If genome that distinguishes a human person from another being is not static then, human nature that flows from genetics cannot be a distinguishing factor. The genes changed. How do they change? It is held that genes change in the through;

The birth and death of genes

Van Huyssteen maintains that "human uniqueness can be adequately addressed only if we take our own animality and embodied personhood seriously."⁵ Studies on genes have shown that genes can be born and can die. This can be done in the following ways;

Duplication and Gene Birth

Finlay holds that "at least 5% of the human genome is composed of duplicated ("copied and paste") segments of chromosomal DNA."⁶ Duplicated genes provide raw material for the production of new genes and also contribute to the characteristic feature of species.⁷ According to Finlay "we share some large and very ancient DNA duplication with species as remotely related as mice and dogs."⁸ By this it means that we can either inherit or duplicate our own genes. There are several hundred locations in the human genome. It shows that people vary in their particular duplicated segments of DNA. For example, "the functioning of the immune system is largely controlled by the human leukocyte antigen."⁹

¹G.FINLAY, "The Emergence of Human Distinctiveness: The Genetic Story", in Rethinking Human Nature, A Multidisciplinary Approach, MALCOLM JEEVES (ed.), William B. Eerdmans Publishing Company, Grand Rapids, Michigan 2011,111.

²Ibid.

³Ibid. 112.

⁴ Ibid. 113.

⁵ V. HUYSSTEEN, Alone in the World? Human Uniqueness in Science and Theology, Grand Rapids:Eerdmans,2006,276

⁶ GRAME FINLAY, "The Emergence of Human Distinctiveness: The Genetic Story", in Rethinking Human Nature, A Multidisciplinary Approach, 117

⁷ Cfr.Ibid.

⁸ Ibid.118.

⁹Ibid. 120.

Deletion and death of gene

DNA may also be deleted. The loss of traces of DNA will at times result in the loss of entire genes.¹⁰ Finlay goes on to state that “deletion events have contributed greatly to shaping of human genetic... the loss of some genetic functionality has contributed to the development of humanity.”¹¹ These genes that have lost the ability to specify the production of proteins are called “pseudo-genes”¹²

If a gene can be deleted, then it cannot be a principle of identification. It fails to be the truth of distinctiveness. Finlay brings an example to buttress this point when he says;

It seems that the ancestors of humanity became less dependent on their sense of smell to survive. Evidence for this interpretation comes from a study of olfactory receptors genes in whales and dolphins, the ancestors of which returned to the sea from the land. These creatures have the highest known proportion of olfactory receptor pseudo genes.¹³

Losing of genes therefore weakens the argument on DNA. This cannot be a distinctive factor for human nature for that which makes the human being to be a human being cannot be that which can be deleted.

Rearrangement, Inversion and Translocation of genes

Inversions are rearrangements that occur within “chromosomes in which a segment of chromosomal DNA is flipped.”¹⁴ Translocation arises from the exchange of genetic material between chromosomes. The argument we presented above still holds here. If a gene can be inverted or translocated, then it cannot be the principle of distinctiveness. If human nature is that which when everything is taken away it still remains then the DNA cannot be the principle of distinction;

New Genetic Function

Finlay maintains that the “human DNA contains several million inserted segments arising from genetic functions.”¹⁵ This means that genes are not original in each human person. If that be the case then genes cannot be the principle of human distinctiveness and therefore we cannot rely on gene to assert what is human nature. “50% of our genome has accumulated from the activities of foreign invaders, viruses and resident jumping genes.”¹⁶ These heritable retroviral inserts are called “endogenous retroviruses”¹⁷ the DNA we have inherited contains several hundred thousand retroviral inserts.¹⁸ Some scientists have suggested that these recently integrated endogenous retroviral might disrupt genetic functions and cause disease.

THE UNIQUENESS OF HUMAN NATURE

Distinctive characteristics of the human person

It is very important at this stage to state that the distinctiveness of the human person cannot be defined in narrowly genetic terms. “Explaining ‘humanness’ is a vague and broadly philosophical

¹⁰Cfr. G.FINLAY, “The Emergence of Human Distinctiveness: The Genetic Story”, in *Rethinking Human Nature, A Multidisciplinary Approach*, 121

¹¹*Ibid.* 121.

¹² *Ibid.*

¹³ *Ibid.* 122.

¹⁴ *Ibid.* 123.

¹⁵G. FINLAY, “The Emergence of Human Distinctiveness: The Genetic Story”, in *Rethinking Human Nature, A Multidisciplinary Approach* 126.

¹⁶ *Ibid.*, 125-126.

¹⁷*Ibid.*

¹⁸ *Ibid.*

question not easily approached using the genome alone.”¹⁹ Finlay maintains that “the uniqueness of the human being refers not only to physical aspects of human existence that science can tease apart, but ‘cognition behavior symbolic communalism and culture.’”²⁰ In other words,

Our DNA sequence is necessary but not sufficient to explain the development of our humanity. The function of gene is undulated by environmental inputs ... human brain and mind development and the full enjoyment of the richness of humanity are exquisitely sensitive to environmental factors.²¹

The inability of genetics to generate the fullness of the human person may be illustrated by the presence of mal functional children or mentally sick persons which shows that humans are not defined genetically. On the contrary; “this gracious act of attention is thus responsible for ‘creating’ a human person... without a human other to attend to the child as *human* the child does not become human.”²² It will therefore be grossly insufficient to view the human person from a single perspective. Human nature is everything about man put together.

Defining the human person

Difficulties ascertaining the concept of human nature come largely from the fact that no one definition of the human person is enough. One perspective cannot define the human person. Does the connection with the other animals bring into question our distinctiveness as human person? What about defining man on the biblical assertion that we are created by a purposive and loving God? As Finlay says;” to be human is to wonder about our own distinctiveness integral to our humanity also is the capacity to conceive of a spiritual dimension to reality, to be able to entertain thoughts about supper empirical realities that order our lives.”²³ This has made David Hay to conclude that “we possess a rational consciousness and are religious animals”²⁴ but to Van Huyssteen ‘we are praying, moral and believing animals not genetically oriented beings.’²⁵ Our capacity to reflect and to response to our place and purpose in the world and on God is all of a piece with our rational symbolic and our capacity to appreciate beauty.

Religious Beliefs Transcend Genetics

It is clear that DNA sequence data will never ever explain certain human attributes such as the knowledge of the moral law and the universal search for God.

“Indeed, the distinction of human nature does not only lie in having a thing called human nature, but in what we choose to do with our human nature. Being human therefore is an act, not a thing and its chief characteristic is not being but what is done responsibly with being.” It follows that the human condition is a category of experience.²⁶

This means that genetics cannot provide an adequate account of our human distinctiveness.

¹⁹G. FINLAY, “The Emergence of Human Distinctiveness: The Genetic Story”, in *Rethinking Human Nature, A Multidisciplinary Approach* ,113.

²⁰Ibid.

²¹Ibid. 113.

²² Ibid. 114.

²³ G. FINLAY, “The Emergence of Human Distinctiveness: The Genetic Story”, in *Rethinking Human Nature, A Multidisciplinary Approach* ,131

²⁴Ibid.

²⁵ V. HUYSSTEEN, *Alone in the World? Human Uniqueness in Science and Theology*, 284

²⁶G. FINLAY, *Op .Cit*, 122.

Thinking Human Person

Various philosophers have defined man as a 'thinking being'. This to them is the distinguishing character of a person. This view was celebrated by the father of modern philosophy Rene Descartes. Descartes' statement "I think therefore I am"²⁷ described his epistemological starting point. It may be adapted to describe the nature of human distinctiveness. The consequence of this view will be to downplay other essential aspects of the human person such as emotional experience and the value of the body in the human person in his distinction of *res cogitans* and *res extensa*, the mind/body dualism which has become known as the Cartesian legacy.

Human Person as Relational Being

From the African/Jewish perspective the human person is not just a religious, thinking being but an anthropoid, hominoid firmly rooted in genetic history. That is we are endowed with the capacity to respond to the other self-revealing persons and to a self-revealing God. Man can only realize his uniqueness in the other. As J.S Mbiti says I am because you and since you are therefore we are.²⁸ The communal dimension of the African society expresses this as a philosophy.²⁹ Alterity, the others is the principle of distinctness in human beings. Because the human person is the subject and object of study the difficulty can be resolved only in the knowledge of the other, being the other. The I-Thou relationship as postulated by Martin Buber becomes important for us here.

The Human Person as Created Being

Unlike other beings that may succumb to the principle of evolution, biology etc, and the human person on the other hand is a created being. This 'creation' does not in essence signify any physical or biological process. 'Creation' rather denotes the activity of God- personal, rational and purposive- that gives existence.³⁰ Douglas S Spanner in his book *Biblical Creation and the Theory of Evolution* hold that;

To know God as creator is not merely to know of his acts in the past. To know God as creator is to experience one's continuing relationship to him-past, present and future. Thus biblically, creation does not start merely for an instantaneous act as events, but for an eternal covenant relationship.³¹

The human person is the only being made in the image and likeness of God (*Imago Dei*). Our personhood is made for a purpose, directed to an end. We share our spirituality with God which other being do not have. We are being over above the DNA.

Implications of the uniqueness of the human being: We are Beings more than the DNA

If we are not careful we could make the mistake of thinking that we are merely biological beings controlled by our genes. Genes do not make a person. We are first and foremost persons. Boethius defined man as "rationalis naturae individua substantia."³² Aquinas taking over this definition adds that a person is an individual substance of a rational nature which is complete body and soul.³³ The human person has a spiritual intellectual part which is the life giving principle to the body. The human person is not an embodiment of genes nor can the human person be determined by biological science alone.

Thinking Being

Besides the DNA, the human person is a thinking being. The definition of man as a thinking being was celebrated by Rene Descartes the father of modern philosophy This will have some serious

implications leading to the rejection of metaphysics. The human person will from now on be seen more from a psychological point of view. Self-consciousness, intellectual knowledge will become the principle of distinctiveness of the human person. This definition is risky in that it excludes human beings that may not be fully conscious. For example schizophrenic persons, babies, those in comas etc.

Being with others/Social Animal

One of the strongest definitions of the human person is that he is a social animal. The human person is a gregarious being. Social living is essential to the human person. No man is an island. This definition of man is highly expressed in the African/Jewish traditions. While the Africans have the communal socialist philosophy the Jews on the other hand maintain an I-Thou philosophy. Social beings long to belong. We seek to maintain relationship. Social support and happiness are sought by everyone. Where community life is prized, conformity to the rules is accepted. David Myers holds that

Massive survey and epidemiological evidence further confirms our essential social nature. Social support—feeling liked, affirmed and encouraged by intimate friends and family promotes both happiness and health. Supportive family members, marriage partners live longer, happier lives and to cope with stressful events.³⁴

When we feel included, valued and loved our self-esteem rises high. Indeed self-esteem mirrors our sense of belonging and being valued. It is a gauge that monitors the level of our social connection.³⁵

Ends in themselves

Over the years nearly all the philosophers are agreed that the human person is an end in themselves. Of all created beings only the human person has value and is an end in himself. This we find in Aristotle and Kant. In the categorical imperative Kant holds that we should never use a human person as an end. This axiological domain comprises of a multitude of values but genetic sequences, even those derived from fossils actually do not shed much light to whether bearers were fully human or not- only on their degree of relatedness to us as ends in themselves.³⁶

Immortality of the Human Person

Humans are unlike other creatures in that only humanity is created after God's own likeness, in God's own image (*imago dei*). Only to humanity does God speak directly. Humanity alone receives from God this divine vocation.³⁷ Added to this the only the human person experiences immortality of the soul. The human person like any other animal is made up of body and soul but only the human soul survives death. Hans Jonas states that;

Among all beings, man is the only one who knows that he must die and in considering "the afterward" and "the there" he also considers "the now" and how "the here" of his existence—that is, he reflects about himself. With graves, the question takes on concrete form. "Where do I come from; where am I going?" "And ultimately what am I—beyond what I do and experience at a given time."³⁸

Among all human beings the reality of death rests only on man. No creature is ever accorded the funeral reserved for human beings. This too distinguishes the human being from other beings despite the fact that they share life in common.

The Concept of Human Freedom

Of all beings only the human person is free. “The genetic record points to the way in which our species has arisen from the operation of the gift of freedom (random genetic process) in a world that is constituted lawfully, consistently and fruitfully.”³⁹ These properties of our world reflect the creator’s love conferring freedom only to human beings.

Etymological and understanding of the concept of humanity

The human being is a complex matter and many believe that just trying to understand life and what it means to be human is a futile undertaking. An ancient maxim tells us that the proper study of man is man. The problem of man is an eternal and at the same times the most urgent of all problems. It lies at the world that is being discovered and transformed in the name of humanity, the highest of all values. The main goal of social development is the formation of human abilities and the creation of the most favorable condition for human self-expression and existence.

Who is a being human?

The attempt to grasp the definition of human person is a complex exercise yet it is a necessary one. It has occupied generations of philosophers from time of Plato to our contemporary period. In the early part of the 6th century AD, Boethius a mediaeval philosopher defined person as *naturae rationalibus individuam subsistentiam* (an individual substance of a rational nature)⁴⁰ . This definition which became classical obviously implies that every human being is a person. St Thomas Aquinas however, later simplified the definition. He defined person as the *subsistent rationale* (rational substance⁴¹ in this definition, “individual”, “nature” and “subsistent” which we have seen in Boethius is replaced by subsistent. This definition entails that a person is subject and an end in himself. Aquinas

maintains that the person is “that which has its act of being through which it exist in itself without needing to depend on another for its existence”⁴² . Subsistence and rationality indicate the ontological and psychological dimension of person respectively. It is just enough to have rationality and intelligence as faculty of a person. Since every human being is an individual substance of rational nature, it suffices to say at this juncture that one cannot be more or less a human person as far as substance is concerned. One may act as a person ought not to act or in a way unbefitting a human person. In Thomistic ontology the basic element of person includes its act of being (*actus essendi*) which includes matter, substantial form (soul), accidental form and act of being which confers actuality to the substance. To speak of the dignity of the human person not dependent solely on the genome is to refer to the intrinsic worth of human nature in comparison with other natures which share in the world of beings. The dignity is not only found in the intrinsic makeup of the individual being. In other words the dignity of the human person is independent of our recognition or appreciation. Human are animals and have evolved from ancestors that were not human. But our “bodily frame” as well as the capacities that stem from it, show also that we are a unique kind of animal, a unique kind of ape, with distinctive features, one of which is the moral sense if we are to agree with Darwin is the most important one⁴³ . As Steven Pinker has written, “Morality is not just any old topic in psychology but close to our acceptance of the meaning of life. Moral goodness is what gives each of us the sense that we are worthy human being.”⁴⁴

Human uniqueness

Human are notables different from the apes and all other animals in anatomy, but also no less importantly in their functional capacities and behavior, both as individuals and social beings. Most fundamental is the advanced intellectual faculties which allow human to categorize things, to think in the abstract and form images of realities that are not yet present or actual. Others distinctive functional feature are self-awareness and death awareness, symbolic language; tool making and

technology; complex and extremely variable forms of cooperation and social organization, legal codes and political institutions; science, literature, and art; and ethics and religion.

Humans live in groups that are socially organized, and so do other primates. But primate societies do not approach the complexity of human social organization. A distinctive human social trait is culture, which may be understood here as the set of non-strictly biological human activities

and creations. Culture in this sense and scientific knowledge of art and literature, technology, and in general all the creations of the human mind. For Pinker, culture is a pool of technological and social innovation that people accumulate to help them live their lives.⁴⁵ This is far more than the DNA for man is the product of his culture and not only the DNA.

INVESTIGATION INTO THE HISTORY OF PHILOSOPHY

Nothing in the world is more complex or more perplexing than a human being. Many sciences study people, but each of them does so from its own particular angle. Philosophy, which studies humanity, relies on the achievements of other sciences and seeks the essential knowledge that unites mankind.

In ancient period, Greek philosophers understood man as a part of nature, of the Cosmos. Man realizes himself only when he behaves according to the laws of nature. Plato saw man as essentially soul, spiritual and incorruptible and therefore certainly immortal. The huge problem for Plato was how the soul had to free itself from its prison, the body. For Aristotle on the other hand, man was essentially composed of body and soul. In man, the soul carries out the role of the form, and precisely for this reason, in spite of its evident superiority with respect to the body, it does not seem to be able to escape from the corruption of the body, and therefore from death.

In Christian Patristic and Medieval thought, the background against which man is studied is no longer nature, but the history of salvation. For the Christian authors, man behaves correctly and reaches full realization of himself if he conforms to the laws of God and the church and takes God Himself as his model (*imago Dei*). God was the point of reference. Two authors stand out clearly within this period: Saint Augustine speculated on problems and notions which Greek thought had not known or could not speculate deeply into it. *In De Anima et eius origine*, he dabbled into the debate on the issue of the origin of the soul if it was from God or the parents? There are two opposed opinions: creationism and traditionalism. Saint Thomas Aquinas finds Plato's notion on the substantive nature of the human being completely consistent with faith but faulty on philosophical ground just as Aristotle's sound philosophical reasoning puts the latter sometimes at variance with Christian revelation. In an attempt to reconcile these two views he comes out with a new anthropology which in its broad outline has the points: man is essentially body and soul, but the soul is not subordinate to the body.

The age of the renaissance totally inspired by the idea of human autonomy, of man's boundless creative abilities sets in a new perspective into the understanding of the human person. Rene Descartes' dictum of "*Cogito ergo Sum*", I think therefore I am starts a new distinction of *res cogitans* and *res extensa* Reason was regarded as the specific feature of man. Soul and body were understood dualistically. The body regarded as a machine similar to that of the animal, while the soul was consciousness. Proceeding from this dualistic understanding of man as a thinking being the understanding of the human person witnessed a sharp contrast from the previously held views. Belonging to the different worlds, the world of natural necessity and that of moral freedom, Kant devised anthropology in "physiological" and "pragmatic" aspects. The first was concerned with what nature makes of man, while the second was concentrated on what a freely acting being, does can or should make of himself.

In contemporary era of philosophy, man was considered as the Supreme Being, the measure of all things as the sophists had insinuated, who does not need a point of reference other than himself. According to Nietzsche, man is determined by the play of vital forces and attractions and not by reason. Kierkegaard gives priority to the act of will, in which the individual is the product of the will. By making a choice, "gives birth to himself", ceases to be merely a "child of nature" and becomes

conscious personality, that is say, a spiritual being, a being that determine itself. The existentialist notion of the human person is centered on ability to make a choice on the theme of freedom . the starting point for Sartre's philosophy is consciousness being for itself and being in itself is based on the fact that our actions are always intentional and one cannot escape from choosing. We are the product of our choices not biologically given or determined or better still a built in essence. The point of departure of the Marxist understanding of man is the human being as the product and subject of location activity. The essence of man is not the abstraction inherent in each single individual. In its reality it is the ensemble of the social relations.⁴⁶

RELIGION AND THE VALUE OF THE HUMAN BEING

As "the problem of man is fundamental for philosophy as a whole"⁴⁷ , it is also a very pertinent and opened debate in the sphere of religion. When we reflect on the problem of man the question of his value, of his dignity arises. Religion gives also an account to understand the value of the human being, a being who is first and foremost a transcendental being, a creature of God.

Looking at the experience of society, to the reaffirmation of the value of man the Church proclaims that human life is sacred and that the dignity of the human person is the foundation of a moral vision for society. "Human persons are willed by God; they are imprinted with God's image. Their dignity does not come from the work they do, but from the persons they are."⁴⁸ Human beings have their dignity thanks to the fact that they are persons. Human beings are created in the image and likeness of God, have by their very existence an inherent value, worth, dignity, and difference. This means that God is present in every person, regardless of his or her race, nation, sex, origin, orientation, culture, or economic standing. Catholic Social Teaching asserts that all human beings must see within every person both a reflection of God and a mirror of themselves, and must honor and respect this dignity as a divine gift.⁴⁹ Man therefore is not just DNA but over and above man is the creation of religion.

CONCLUSION

Our genes provide the substrate for all that we are and they provide the foundation by which personal encounter with other persons and with God confer upon us the fullness of human personhood. Our environment, physical and social determine the potential for what we may become. But we have human freedom. How this environment influences our becoming is spelled out in the further scientific perspectives. Graeme Finlay has demonstrated that genes can furnish us with the knowledge of who the human person is but genes are still far limited to determine human nature. We are beings over and above other beings. The human person is made in the image and likeness of God but still open to other possibilities. Therefore, we are more than genes. The human being is a being different from other living beings, he is physical, rational, spiritual, psychic and transcendental. These properties ascribe to his being constitute him as a person. Each living being as such has a value because life is special or even sacred. But human beings are more special because they have special and interesting properties. Thus, it is ascribed to all human beings a human dignity, a value which should be seen in what he is and not in what he able to do or to produce. It is an inalienable dignity. This value may be violated but can never be lost.⁵⁰

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