A DISCUSSION ABOUT THE 'DEATH GENE' FROM THEOLOGICAL AND GENETIC' POINT OF VIEW

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ABSTRACT:
THIS PAPER IS TRYING TO PUT TOGETHER TWO DIFFERENT RESEARCHES, FROM THEOLOGY AND FROM GENETICS, ABOUT A GENERAL AND UNDETERMINED TOPIC, DEATH. IT IS UNDETERMINED BECAUSE NO ONE CAN SAY SOMETHING DEMONSTRABLE AND UNIVOCAL ABOUT IT, SINCE NO PERSON ALIVE CAN CROSS OVER THE EDGE OF LIFE AND COME BACK FROM THE DOMAIN OF DEATH WITH INFORMATION ABOUT IT. BUT WE CAN DISCUSS, NEVERTHELESS, THINGS THAT ARE OBVIOUS AND POSSIBLE TO BE REASONABLY INFERRED ABOUT DEATH EVEN BY LIVING BEINGS. IN THIS REGARD, THEOLOGY WILL PROVIDE THE MAINLINE OF WHAT IS TO BE KNOWN AS DEATH FOR RELIGION IN GENERAL, WHILE GENETICS WILL TRY TO COME WITH ITS RESEARCH TO SUSTAIN OR CONTRADICT THE GENERAL PREMISE: DEATH IS NOT AN ONTOLOGICAL BEHAVIOR OF LIVING MATTER, BUT AN IMPOSED ATTRIBUTE AFTER THE SIN OCCURRED INTO THE WORLD.

KEYWORDS: LIFE SPAN, CONSEQUENCE, IMPRINTING, TELOMERES, SENESCENCE, IMMORTALITY, DEATH, GENES.

INTRODUCTION

The present issue is usually regarded with fear, or at least respect, due to the fact that nothing over the edge of it is possible to be known or demonstrate. As a mater a fact, we cannot 'know' for sure anything about it since we do not possess the ability to cross / see on the other side.

The reason for taking this topic under a dual perspective, genetic and theological, is because both have something to say about this unseen reality that nobody knows anything about it and, in the same time everyone fears it unequally. We believe that, if we raise the right questions in this mater, we might get the correct attention over death from our readers.

The theological perspective approach death with interest on questions like, what is death?, how could the living matter change into dead matter?, is death a permanent or a reversible stage? Death – a quality of living matter or an accident that will pass away? Do we really want death to be removed? Trying to answer this questions, our research aims to create

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a logical explanation for the reason of death to exist, and, perhaps, the most important thing said here is that death has a purpose, as everything else does in the Creator`s plan.

DEATH FROM A THEOLOGICAL POINT OF VIEW INTRODUCING THE "THEOLOGY OF DEATH"

For the Christian theology death is always in connection with two fundamental aspects: *Fall of Adam* and *the crucifixion and resurrection of Christ*. Only in the context of these two historical-biblical moments death can be explained, interpreted and conceived; more than that, those two events are always taken together as a whole, being regarded as a hole: Christ's death is a consequence of Adam's sin and the resurrection undo the effects of the sin committed by Adam, without which, the Resurrection would not have been necessary.

The concept of death, between these two beacons of the Christian faith, it receives different interpretations and approaches. E.g. It appears as **divine punishment** occurred from the sin of Adam and directed both against Adam who committed this sin and somehow, against all his descendants; for this imputation directed to the whole human race there, are many theories that attempt to explain reasonably this imputation without exhausting the resources to answer all the theological or emerging issues. And although there is often this acceptation of death, the Bible says bluntly that "For God made not death: Neither hath He pleasure in the destruction of the living" (The Book of Wisdom 1.13), and the reason is very plausible and fall very well with the divine plan of creation … "For He created all things, that they might have their being: and the generations of the world were healthful" (vs. 14). Beside punishment, death is also a redemption method and not a vengeance of God as St. Irenaeus said[3].

Another relevant explanation is that death was brought by God in human nature as a consequence of sin and for that matter it does not lasts (being a **preventive measure**); it cannot be contained, changed or removed by a 'natural' course of action. Death received a temporal-spatial determination beyond which it cannot pass[4]. This explanation is most often found in Christian theologians and, it has a profound scriptural justification:

An interesting point laid down in the Bible referring to death is located in the Book of Revelation, 9.6, *during those days people will seek death but will not find it; they will long to die, but death will elude them.* It is a unique text, without any other correspondent Bible, which shows that the death penalty is not imposed forever, with no possibility of escape from it.

In another vein, death is **a psycho-pedagogical approach** of God for man's disobedience and transgression of the divine command. Without smuggle the penalty of sin - "For the wages of sin is death ..." (Romans 6.23) - it is often interpreted by the Fathers of Holy Church as a result of God's nurturing and as a measure for straightening the humankind, goal that is, in fact, in everything God does by and for men after the original sin, "I take no pleasure in the death of the wicked, but rather that they turn from their ways and live" (Ezekiel 33.11). We are told that "**death is at work** in us" (2 Corinthians 4.12), so it must be something specific, like a being, not an attribute. Death is something relative to living matter, because the image created around it gives to death this posture.

Can we segregate a gene of death by the living nature? If "death is at work" it can only means that it is something that performs a function, either biological, or pedagogical, or both. In this case death is "alive" and this interpretation has gained anthropomorphic significance from ancient times just because this understanding of death as something alive

[3] M. L'abbé Migne. Encyclopédie théologique ou, Série de dictionnaires sur toutes les parties de la science religeuse. Paris: Migne au Petit-Montrouge, vol. 3, 929.
[4] Migne. Encyclopédie théologique ou…, 929

exists everywhere, as something that works, something that fulfills a function, transforms, consumes living matter etc. According to most religious traditions, death is not an object or just a state of life, but a subject that can talk, negotiate and so on. However, the vitality of death means probably the biological binder, with living matter, binder through which it could influence it after the program he has. In this sense, death can be understood as a biological virus that is reprogramming the information of living cells, and this because, observing the natural evolution of a cell compared with one attacked by death viruses (e.g. cancer), cell information changes in the sense that the "normal" life span shortens dramatically. We can extrapolate in this sense that there is a gene of death virally forwarded to the whole creation and that rescheduled the information of living matter.

CASEWORK OF DEATH

An appropriation of death emerging from all theological writings that approach this matter is its universality; there is no one and nothing (among living) which can escape from the incidence of death. It cannot be known the exact method by which, because of Adam's sin, death spread virally upon all mankind ("so death passed onto all men, for all have sinned" Romans 5.12), to the whole nature. The question is, how did this transmission of death has occurred? How could death enter onto living matter? The Bible says that "sin came into the world through one man, and death through sin, and so death spread to all men" (Romans 5.12). If everything was created to live, was it possible that all what was alive received the stigma of death? Many theologians suggest that the figure of the heavenly fruit is a figurative one and that, even if there was a physical fruit, death has not come because of it. There are other theologians who distrust the spiritual command of God, and propose that God`s words are more as a warning given to man, not to touch a fruit able to cause death. But this assumption is rejected by Lord`s words occurring after man's disobedience and says bluntly "Because you have listened to the voice of your wife and have eaten of the tree of which I commanded you, 'You shall not eat of it', cursed is the ground because of you" (Gen 3.17). That means that death is the penalty of death" (Romans 6.23).

Demarcation between life and death is categorical, without exception; all man are subjects of death. What appears to be an exception, the case of Enoch, the seventh man, as well as Elijah - both caught up to heaven before death holds any effect on them - are no exceptions at all, because the Bible picks up their life from where their left (Genesis 5.24, 2 Kings 2) and finishes it in the same manner as any other human life: with a physical death (Revelation 11.7). In other words, death is inexorable, no one can escape; is therefore a *sine qua non* condition of life. It cannot be deceived, planned or deferred; because of this almost everyone is inclined to say that "you can`t cheat death", meaning that the death is the natural end of any biological existence, more or less predictable. However "everything longs for permanent existence"[5].

Predictability of death is only effective under "abnormal conditions" when the death can be diagnosed, but even then the percentage of occurrence of the death is not 100% sure, sometimes, beings encountered exceptions due to "miraculous" and especially unexpected healing. Generally, it operates with approximations to decades and that shows the age limit a certain organism can reach (e.g. for human max. age is 122 years, for cats 38, for dogs 29, 62 for horses, elephant 86, Koi fish + 200, or for the *ocean quahog* (*Arctica islandica*, aka *Ming*) a marine bivalve mollusk for 500 years). **Maximum life span** is a measure of the maximum amount of time one (or more) members of a population has been observed to survive between

[5] John Calvin. *Institutes of The Christian Religion*, Book III, Chapters VI – X: *On The Christian Life*. (USA: SAGE Software Albany, 1995), 40.

birth and death. For this definition, accidents which resulted in death, are not taken into account,

From a theological point of view, the irreversibility of death is not a feature of it, although for all scientists this dimension of death is naturally impregnated to all living things; it is an impregnable reality to which any living being obeys unconditionally. Nevertheless, for the theological world the picture has a completely different manner. We do not approach here the issue of reincarnation because it does not regard directly the reversibility of biological death, of living matter, but it is a theory that relates exclusively to the soul, not the body. The presumption of universal resurrection, stemming from historical and religious reality of the resurrection of Jesus Christ, is a direct and unequivocal reference of the reversibility of the biological death. The sea gave up the dead that were in it, and death and Hades gave up the dead that were in them" (Revelation 20.13). The abolition of death is a natural consequence, both for the Christian theology - entitled to regard this as an undeniable reality, because it is based on the reality of death and resurrection of Christ, Who, by the grace of God, He might taste death for everyone (Hebrews 2.9) - as well as for many other theologies, and this universal aspect of belief of resurrection also of the body along with the spirit, is closely related to the logic and the rationality of creation which, with in the perspective of permanent death, there would has no teleology. More than that, as has been shown in the beginning of this text, we can probably conclude our presentation saying that death has a reason to exist, and, perhaps, the most important thing we can say here is that **death has a purpose**, as everything else does in the Creator`s plan; "by death we are recalled from exile to inhabit our native country, a heavenly country"[6]. There is no sick, perverse or insane statement that we wish for death to come, we embrace death for it will reunite us with the Lord and not because we want to give up this life and ask for a sooner, irrational or self-inflicted death (cf. 2 Timothy 4.18; Titus 2.13).

About this irreversibility of death many theologians have written and they have based their writings starting from promise "the LORD Almighty…will swallow up death forever" (Isaiah 25.6, 8). Every author talking about this issue tells us not only will God relieve the hurt caused by life`s suffering ('wipe away tears', cf. Mt. 5.4), but He will remove those factors which brought about the suffering. By John`s day the abolition of death in the new age was a fairly standard feature of Jewish and Christian eschatology, with Isaiah 25.8 forming the central proof text"[7].

We talked until now about biological death occurred by the degradation of the living cell, by achieving the final threshold of genetic information. The same logical argument can be said and speculated about the accidents that interrupts life without a prior genetic programming (suicide, homicide)? Perhaps the case of suicide could be caught in this genetic program, if we say that our behavior is included in our genetic material, and in that case we can extrapolate that the failure of personality and the tendency of suicide are all printed and determined as genetic information. But if so, then the problem of determinism would suppress any chance of man's free choice. Then what happens with accidents and the death caused not by aging, but in various circumstances? This dilemma is not the subject of our research, it exceeded the area of genetics, and any solution we would provide, probably would be contrary to the information gathered in the dialogue with genetics.

[6] Migne. Encyclopédie théologique ou …,40.

[7] Jan Fekkes, Isaiah and Prophetic Traditions in the Book of Revelation: Visionary Antecedents and their Development. (Sheffield: JSOT Press, 1994), 254.

THE THEOLOGICAL PROBLEMATIZATION OF IMMANENCE OF DEATH

Can genetics understand, starting from a primordial, edenic genetic code, before sin, whether our hereditary legacy encompasses or not imprinted death?

From the religious perspective, man was created by God in an indefinite state (not final) – in regards of the end of the body (death). He was quoting from St. Augustine, "*posse non peccari et mori*" (you are *able not to sin or die*) and not "*non posse mori*", namely *he may not die*, but not that *he could not die*. In this case we need to understand that the disease, death, the disintegration of matter in general was not, according to the theological teachings (at least after the three monotheistic religions – Judaism, Christianity, Islam), an attribute, a constitutive acquiring of the flesh (human, in particular).

Secondly, after the original sin, committed by Adam and Eve, man receives a provisional and final state of decay, death being included as the final stage of bodily degradation. Moreover, this original sin, with all its effects and consequences, is transmitted – we don`t know for sure and absolutely *how* (there are only theological theories so-called theologoumena[8] debating, but do not define this aspect) – to descendants of Adam and Eve until today and beyond. Words said to Adam, "the day you eat you will die" (Gen. 2.17), did not suggest an instant death, but the loss of innocence and of the state of no- death; man becomes *the subject of death*, because Adam lived for 930 years. On the other hand the Christian Church condemned Pelagius who claimed that Adam, even if he had not sinned, he was dead in its natural condition[9].

What are the genetic implications of this problem so far?

That would somehow mean that there is, on the one hand, in the genetic code of living matter the information that the degradation and death, finally, are correct, efficient and ultimately natural. The first conclusion that follows from the fact that now, after the original sin, this is the definitive state of living matter; because of the sin, but that's it! We do not have access to a primordial genetic code, a pre-sin one, a Adamic or heavenly one and therefore our inherited legacy now includes imprinted the death.

On the other hand, this could also mean that the pattern of death is not written in the genetic code of any creature - human or bacteria - and that this ***imprinting*** would have followed to be made post-creationist - a) by the direct work of the Creator, although not a single word of Genesis would make us take this imprinting with the death gene (of bodily degradation) as the "act of God": cursed are you above all livestock and above all beasts of the field... cursed is the ground because of you" (Gen. 3.14, 17); b) or by the will of Creator and His indirect work. Like a trigger set as a backup in the genetics of living matter, since the creation of it and which it may be elicited by the sin in the event that this was obviouslyactivated ; if it was not triggered, the genetic trigger of death remained passive, and the state of non-death may have perpetuated equal as natural as death, now, after-sin. This explanation may be based on the scriptural statement made to Adam by the Creator: "I have set before you life and death, blessing and curse. Therefore choose life, that you and your offspring may live" (Deuteronomy 30. 19) Jean Calvin says that "death was inflicted for the

[8] Theologoumena exist on different teachings (e.g. the "nature" of evil, the relationship between the many demons and the one devil, the way in which demons tempt man, the "abode" of the demons, their situation at the Last Judgment, the question of the relationship between individual man and the tempter, compared with the individual guardian angel, the way original sin is transmitted to all and every human being and so on) which have been unable to go beyond this stage of development because there is no strict theological point of departure for this further development. Karl Rahner (editor), Encyclopedia of Theology: A Concise Sacramentum Mundi. Mumbai, India: Continuum International Publishing Group Inc., 2004, P. 334.

[9] M. L'abbé Migne. *Encyclopédie théologique ou…*, p. 928.

very thing which deserved the highest praise"[10], letting us know that the other part of Christianity also believe in the accidentally of death.

The first conclusion drawn here is that the attempt of scientists to seek removal of the death in the genetic code, finding of a concrete solution, achievable, the "youth without old age and life without death" becomes appropriate. There can only be meaningful such an attempt like that as long as we believe it is valid the earlier inference: *death is not natural, but a genetic mutation occurred in the process*. Vice versa, if the natural death is a link of the genetic chain, whether it is passive, then, along with the triggering / activation of it, it cannot be torn away from the genetic chain of living matter without destroying it. In this case, death occurred not naturally, but artificially, before the natural stop of the biological clock, and therefore useless.

What would be, in this regard, the intervention of geneticists and the conclusions reached by their research? Other scholars or researchers may intervene at any time and to clarify this issue.

GENETICS APPROACH OF DEATH IN GENERAL

WHAT IS LIFE SPAN?

In Greek myth, the amount of time a person spent on earth was determined at birth by the length of a thread spun and cut by the Fates. Modern genetics suggests the Greeks had the right idea—particular DNA threads called telomeres have been linked to life expectancy. But new experiments are unraveling old ideas about fate[11].

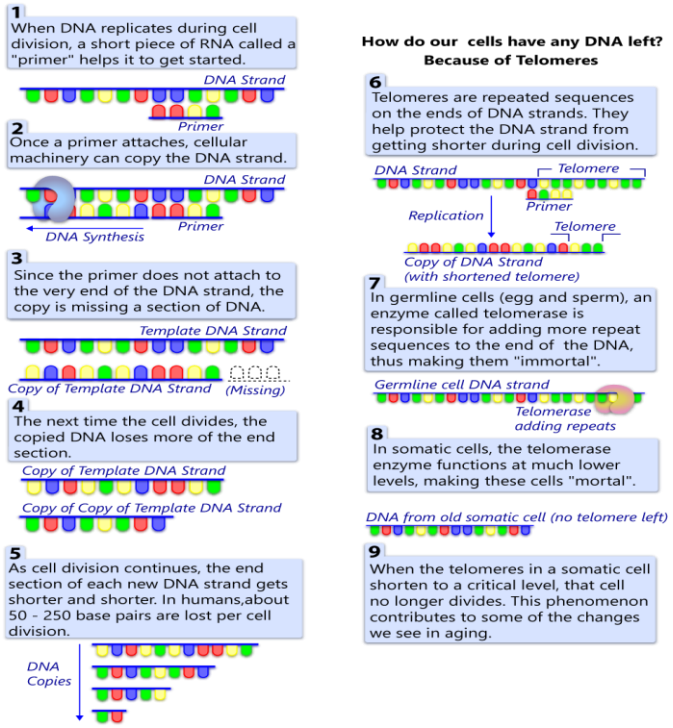
WHAT ARE THE TELOMERES?

A telomere is a repeating DNA sequence (for example, TTAGGG) at the end of the body's chromosomes. The telomere can reach a length of 15,000 base pairs. Telomeres function by preventing chromosomes from losing base pair sequences at their ends. They also stop chromosomes from fusing to each other. However, each time a cell divides, some of the telomere is lost (usually 25-200 base pairs per division).

[10] John Calvin. *Institutes of The Christian Religion*, Four Volumes In One Digital Library Volume. (USA: SAGE Software Albany, 1996), 33.

[11] Joseph Stromberg. Can Your Genes Predict When You Will Die? New research suggests we can defy genetic destiny. Smithsonian Magazine, January 2013. web: http://www.smithsonianmag.com/science-nature/can-your-genes-predict-when-you-will-die-164511528/?no-ist

Figure 1. Relation between telomeres and DNA



Telomeres appear to protect and stabilize the chromosome ends, like the tabs on the end of shoe laces which prevent them from fraying. Without telomeres, the main part of the chromosome — the part with genes essential for life — would get shorter each time a cell divides. So telomeres allow cells to divide without losing genes.

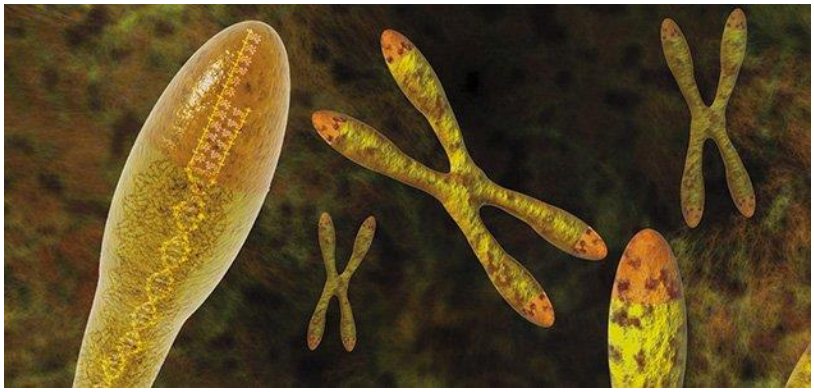


Photo 1. Telomeres (tinted red) protect chromosomes like the plastic tips on shoelaces. The length of telomeres may be a marker for longevity. (Carol and Mike Werner / PHOTO RESEARCHERS, INC)

Without telomeres, chromosome ends could fuse together and corrupt the cell's genetic blueprint, possibly causing malfunction, cancer, or cell death. Because broken DNA is dangerous, a cell has the ability to sense and repair chromosome damage. Without telomeres, the ends of chromosomes would look like broken DNA, and the cell would try to fix something that wasn't broken. That also would make them stop dividing and eventually die.

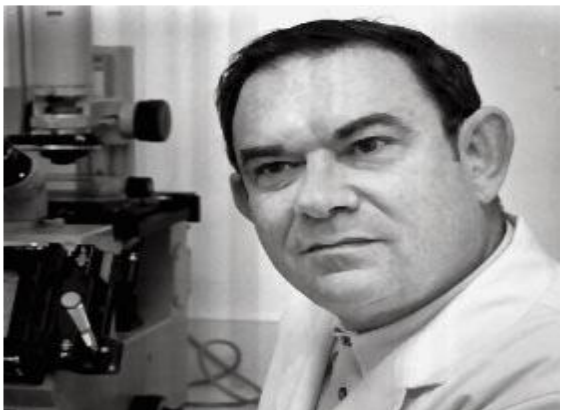
Over time the telomeres shorten and provide less protection, making cells more vulnerable to degenerative age-related diseases.

Telo¬meres are quite long at birth and shorten a bit every time a cell divides; ultimately, after scores of divisions, very little telomere remains and the cell becomes inactive or dies. And because elderly people generally have shorter telomeres than younger

people, scientists believe that telomere length may be a marker for longevity as well as cellular health.

Almost 40 years ago, Leonard Hayflick discovered that cultured normal human cells have limited capacity to divide, after which they become senescent — a phenomenon now known as the 'Hayflick limit'[12].

Figure 2. **Leonard Hayflick** in 1988**.** (Photograph: Peter Argentine.)



The **Hayflick limit** (or *Hayflick phenomenon*) is the number of times a normal human cell population will divide until cell division stops. Empirical evidence shows that the telomeres associated with each cell's DNA will get slightly shorter with each new cell division until they shorten to a critical length and can no longer replicate. This means that a cell becomes "old" and dies by a process called apoptosis. Telomere activity is controlled by two mechanisms: erosion and addition[13]. Erosion, as mentioned, occurs each time a cell divides. Addition is determined by the activity of telomerase.

WHAT IS TELOMERASE?

Telomerase, also called '*telomere terminal transfers'*, is an enzyme made of protein and RNA subunits that elongates chromosomes by adding TTAGGG sequences to the end of existing chromosomes. Telomerase is found in fetal tissues, adult germ cells, and also tumor cells. Telomerase activity is regulated during development and has a very low, almost undetectable activity in somatic cells. Because these somatic cells do not regularly use telomerase, they age. The result of aging cells is an aging body. If telomerase is activated in a cell, the cell will continue to grow and divide. This "immortal cell" theory is important in two areas of research: aging and cancer.

IMMORTALITY

If telomerase makes cancer cells immortal, could it prevent normal cells from aging? Could we extend lifespan by preserving or restoring the length of telomeres with telomerase? If so, would that increase our risk of getting cancer?

Scientists are not yet sure. But they have been able to use telomerase in the lab to keep human cells dividing far beyond their normal limit, and the cells do not become cancerous.

If we used telomerase to "immortalize" human cells, we may be able to mass produce cells for transplantation, including insulin-producing cells to cure diabetes, muscle cells for treating muscular dystrophy, cartilage cells for certain kinds of arthritis, and skin cells for healing severe burns and wounds. An unlimited supply of normal human cells grown in the laboratory.

[12] Jerry W. Shay and Woodring E.Wright, *Hayflick, his limit, and cellular ageing*- www.nature.com.
[13] Facts about Telomeres. Web: https://freeantiagingtips.wordpress.com/ (26 July, 2013).

SENESCENECE

Senescence is considered the last step of the complex process of development of all organisms. This refers to a series of changes resulting in decreased body homeostasis and increased vulnerability.

Although cellular senescence can be induced by various causes, senescent cells display a number of characteristics that allow their identification both in vitro and in vivo.[14]

Some of these biomarkers reflect the activation of mechanisms contributing to cellular senescence program: telomere shortening and cell cycle arrest, increased oxidative stress, chromatin remodeling, products secreted by senescent cells, autophagy activation and morphological changes.

There is ample evidence that the maximum duration of survival of each species is under genetic control. However, the heritability does not exceed 35%. Despite the relatively low levels of genetic factors, a number of mutations can dramatically affect the senescence.[15]

Average lifespan has increased at a steady pace of almost 3 months per year in both males and females since 1840[16].

Centenarians now constitute the fastest-growing segment of the U.S. population, increasing in number from 3,700 in 1940 to roughly 61,000 in 2006[17].

Finding differences in genes between centenarians and average-aged individuals may point to molecular pathways important in the ageing process. Yet, little is known about specific genes that affect the rate of ageing or human lifespan.[18]

The only two genes associated with human longevity that have been replicated in multiple populations are FOXO3A and APOE[19]. The effect sizes of these two genes for longevity are small with odds ratios of 1.26 and 1.45 for survival to age 100 in replicate studies for FOXO3A and APOE, respectively[20]. These genes account for only a small portion

[14] Thomas Kuilman, Chrysiis Michaloglou, Wolter J. Mooi, et al. "The essence of senescence" *Genes Dev.* 2010 24: 2463-2479.

[15] Mircea Covic, Dragos Stefanescu, Ionel Sandovici, "Genetica medicala" Edit. Polirom 2011.

[16] Oeppen J, Vaupel JW. Demography. Broken limits to life expectancy. Science. 2002 May 10;296(5570):1029-31.

[17] Sonnega A. The future of human life expectancy: have we reached the ceiling oris the sky the limit? Research Highlights in the Demography and Economics of Aging. 2006 March 2006;8.

[18] Heather E. Wheeler and Stuart K. Kim, Genetics and genomics of human ageing, review 2010.

[19] Kervinen K, Savolainen MJ, Salokannel J, Hynninen A, Heikkinen J, Ehnholm C, et al. Apolipoprotein E and B polymorphisms--longevity factors assessed in nonagenarians. Atherosclerosis. 1994 Jan;105(1):89-95.
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Willcox BJ, Donlon TA, He Q, Chen R, Grove JS, Yano K, et al. FOXO3A genotype is strongly associated with human longevity. Proc Natl Acad Sci U S A. 2008Sep 16;105(37):13987-92.
Anselmi CV, Malovini A, Roncarati R, Novelli V, Villa F, Condorelli G, et al. Association of the FOXO3A locus with extreme longevity in a southern Italian centenarian study. Rejuvenation Res. 2009 Apr;12(2):95-104.
Flachsbart F, Caliebe A, Kleindorp R, Blanche H, von Eller-Eberstein H, Nikolaus S, et al. Association of FOXO3A variation with human longevity confirmed in German centenarians. Proc Natl Acad Sci U S A. 2009 Feb 24;106(8):2700-5.
Li Y, Wang WJ, Cao H, Lu J, Wu C, Hu FY, et al. Genetic association of FOXO1A and FOXO3A with longevity trait in Han Chinese populations. Hum Mol Genet. 2009 Sep 29.
Pawlikowska L, Hu D, Huntsman S, Sung A, Chu C, Chen J, et al. Association of common genetic variation in the insulin/IGF1 signaling pathway with human longevity.Aging Cell. 2009 May 31.

[20] Corder EH, Saunders AM, Strittmatter WJ, Schmechel DE, Gaskell PC, Small GW, et al. Gene dose of apolipoprotein E type 4 allele and the risk of Alzheimer's disease in late onset families. Science. 1993 Aug 13;261(5123):921-3.

of the genetic contribution to longevity measured through family heritability studies[21] [22]. Therefore, much of the heritability of lifespan remains to be explained.

I. CONCLUSION

Death is the termination of all biological functions that sustain a living organism. So any factor, genetically or not, that disrupts these functions is causing death.

There is no "death gene", but cells have a limited number of divisions by the repetitive DNA sequences of telomeres, so it can multiply indefinitely. The absence of cell division will lead to cell death, thus unable to renew tissues and aging, as an irreversible process.

Obviously, when cell division could be controlled *in vivo* only then we can ask whether death is or not reversible?

The application of new human genetics technologies to the study of ageing has just begun and may lead to additional breakthroughs in human ageing in the near future.

The proposal of theology about death is that this is not an ontological attribute of living matter, but an immanent accident of it, that was established over all creation as a result of disobedience of "the crown of creation", man, but it is also to be removed by the One Who established it as a temporary law of living matter. For the foundation of this we have plastic assertions, that "Then death and Hades were thrown into the lake of fire" (Revelation 20.14), and also clear, direct and unequivocal expressions, "The last enemy to be destroyed is death" (1 Corinthians 15.26). We thus learn that death will eventually be abolished, because its nature is immanent provisional until some point.

The approach of this issue seems to be useless as long as the specifications formulated both theological and of genetics are identical and lead to the same conclusion: death is relentless, universal, and no one can escape it, and more than that the existence of an after-life is not something that can be certified by anything concrete and tangible. Death ends, beyond the control of anyone, any lifetime and cannot be determined or stopped by anyone. However, our conclusion is one able to give us hope of the fulfillment of words like "death will be destroyed". Knowing that death was not a plan into our gene or in any living material from the beginning, which leaves us with an uncertain hope that death is merely a stage, a provisory and accidental 'gift' that might be, someday, taken back. We might not have said all things about death, even some important information as *there is something worse than death; spiritual death; there is something called undead etc.*, but we considered that, due to the mutual approach, what was said is more important than other knowledge about it. We come with a theological assertion that death has a purpose to exist, therefore, death has a purpose to exist in man's life in particular because of this. What is it then, because, as science can say about it, death has no meaning for us to end other than to become part of "food chain", a meaning that has no power to convince us to live as we do and, in the same time, to live with this idea that we are merely food for something else like a fish, insects or worse! "Death is not something which happens to a man alongside much else. Death is the event in which the very man himself becomes his definitive self"[23]. In other words only in the light of death we can understand and cherish life itself, and through the "eyes" of death we can consider ourselves in a realistic evaluation, how much we really value; "Come, brethren, to

[21] Herskind AM, McGue M, Holm NV, Sorensen TI, Harvald B, Vaupel JW. *The heritability of human longevity: a population-based study of 2872 Danish twin pairs born 1870-1900*. Hum Genet. 1996 Mar;97(3):319-23.

[22] McGue M, Vaupel JW, Holm N, Harvald B. *Longevity is moderately heritable in a sample of Danish twins born 1870-1880*. J Gerontol. 1993Nov;48(6):B237-44.

[23] Karl Rahner, *Encyclopedia*…, 329.

the pit to see the dust and the dirt from which we were built. Where are we going now? What we have done? Who is poor or rich? Who is the master? Who is free? They are not all the dust? The beauty of face had rotted and the flower of youth had withered by death" (Song from orthodox funeral).

On the other hand, scientifically speaking, if somehow we could solve the problem of death and come to a solution to eliminate from the equation of life, we would really want to live forever in these conditions that we have built? Judging by the wrong that humankind has done, would we really want to preserve this for eternity, or are we ourselves the mere judges of life and we would want to put an end of it eventually? Man is now free to imagine any scenario with us being immortals in this world with this kind of life we have built!