My thoughts as a believer and scientist on the biblical account of creation

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God is revealed through nature and his word

The history of natural sciences provides many examples from well-known researchers who were convinced that God revealed himself in nature. Kepler, an astronomer, thought intensively and very successfully about nature and saw himself and his colleagues as priests who could read the book of nature. Galileo justified his method of searching for truth by comparing the interpretation of the Bible with the results of nature observation. He then stated: "Two truths can never contradict each other." In fact, this method is accepted in principle by most Christians, but in practice many believers keep to their own Bible interpretation independent of nature observations. For example, some believers think that the sun is younger than the earth because, according to the creation account, the sun was "made" on day four (Genesis 1:14-19) while the creation of heaven and earth took place at the very beginning (Genesis 1:1 - cf. RASHI on Genesis 1:16).

Almost all believers have accepted the Copernican worldview with the sun as the center, but some are not prepared to accept the inevitable consequence that the central star must be older than its planets.

In order to avoid such errors, it is necessary that the two revelations of God be studied as independently as possible. Of course, this is easier said than done. Our knowledge is and remains limited in this world; this applies to both our understanding of nature and the Bible. In addition, our thinking and cognition is anything but objective. That is why modesty and willingness to accept correction are basic requirements for a successful search for the truth in nature and the Bible. Maimonides, a famous 12th-century Jewish scholar, wrote in the preface to his "Guide to the Undecided": "Knowledge of the divine cannot be achieved without knowledge of the natural sciences." We too should strive to understand "the invisible things of him … which are clearly seen, being understood by the things that are made, even his eternal power and deity" (Rm.1:20).

The creation of two worlds and the basic condition of salvation

God created both an invisible and a visible world. Satan and his angels belong to the invisible world. A decision against God is unchangeable in the invisible world, because there is no death there. In order to preserve man's redemption, God expelled him from paradise after the fall and thereby blocked his way to the tree of life (Genesis 3:22-24).

God planned and created humans with freedom of choice – a necessary prerequisite for a personal relationship with our God and Creator in love.

In carrying out his plan, the fall was for God no unforeseen incident to which he responded by subjecting the visible word to corruption. The Bible shows that God, in his foreknowledge, originally planned and created the visible world, including animals and humans, in such a way that salvation was in principle possible, i.e. temporal, transitory and mortal.

Many of the older Bible interpreters believed that there was an unspecified period of time between the original creation of heaven and earth (Gen. 1:1) and the chaotic state of the earth in Gen. 1:2. The chaos in verse 2 did not involve the universe, and the darkness on Earth's surface was caused by a catastrophe (see Appendix 1, W. Kelly et al.). Many of the interpreters see the fall of Satan as the cause of this catastrophe. In my opinion, the conditions described in v. 2 were externally caused by an asteroid collision with the Earth

(see Appendix 2), the consequences of which devastated the habitat on our planet. The report from verse 3 onwards describes the restoration of the earth as a habitat for the animals and humans, which were soon to be created.

The six days of God's creation

God's acting and creating is divided into six days and the content of each day is divided into a command from God with a subsequent description of the execution of this command. This is followed by assessments, naming, determinations, blessings, etc. The topic is the preparation of the earth as a habitat for humans (Isaiah 45:18) and the individual steps towards this goal are described – everything from the perspective of an observer on the earth's surface.

The earth was without form, and void and completely covered with water. Clouds reaching the surface of the water probably filled the entire atmosphere and darkness was upon the face of the deep. But the Spirit of God was present. Into this chaos God's spoke his first command: "Let there be light," followed by the execution in the shortest possible form, and there was light.

God did not create light out of nothing. Therefore, my understanding is that, at God's command, the light of the sun, created together with the heavens in verse 1, was able to penetrate the previously opaque masses of clouds. As a result, a periodic alternation of light and darkness, day and night, began on the surface of the water-covered planet Earth – a 24-hour day.

This periodic alternation of light and darkness is the first indication of the perspective from which the creation account is presented. An observer from a distant point in space, e.g. a spaceship would not perceive a periodic change of light and darkness, but rather a rotating planet with changing illumination.

Proper understanding of perspective is crucial to understanding the entire report. The creation account is described from the perspective of an observer on the earth's surface. Viewed from this perspective, the sun rises on the eastern horizon in the morning, rises to its zenith at midday, and sets on the western horizon in the evening. This perspective also includes a limited horizon for the observer. However, it would be a mistake to conclude from this choice of perspective that the Bible teaches a geocentric worldview. This mistake was made at the time of the Inquisition, so we should be very careful to avoid similar mistakes.

God judged the light to be good – not the darkness. With this judgement day one of God's work was ended.

Where did darkness and chaos come from? If God really created the universe as suddenly as some believers assume – He spoke and it was (suddenly completed? Ps. 33:9) – there would be no time for chaos and darkness in this concept. The question why only light was judged to be good also remains open.

On a second day of creation, God made the airspace - probably under a high, closed but translucent cloud cover. Why is there no judgment on this day, although in all other days the work of God is described as good?

On a third day of creation, God lowered the seabed and raised the land so that the waters could gather and the dry earth became visible. This made plant life possible on the earth's surface. The record does not say that plant life was created by God – just as it does not say that light was created on day one. Rather, God commissioned the earth to make plants grow, whereupon the earth produced plants of various kinds.

Since it doesn't even say that God made plants, it seems to me that the most likely meaning of these words is that at this time plants began to grow from pre-existing seeds. In my opinion, these seeds are left over from the original creation that was destroyed by a global catastrophe (see Appendix 2). – Others believe that the information flow of the divine command word brought about the organization of plant life from inorganic matter.

Since the earth produced grass, bushes and fruit-bearing trees, it is clear to me that this process could not have been completed in 24 hours. I have no doubt that God can create a large tree full of fruit out of nothing. But the Spirit of God does not report such a creative act at this point. The chosen words, on the other hand, fit with a growth process that we can observe in nature and which takes several years for a tree from the germination of the seed to the bearing of fruit. This interpretation is in accordance with Chapter 2:9: And the LORD God caused all kinds of trees to grow out of the ground... Therefore, the interpretation that between the divine word: "Let there be light" and the creation of man, less than a week should have passed, is extremely questionable.

The detailed account of the creation of man begins with the words "in the day when the LORD God made the earth and the heavens..." (Chapter 2:4) and thus goes back to Genesis 1:1. In Genesis 1:10, the dry land appears for the first time, on which God prepared the habitat for humans. I understand the passage as three consecutive snapshots of creation:

- 1.) Creation of heaven and earth, (Chapter 1:1)
- 2.) Appearance of the dry land (chapter 1:10),
- 3.) Creation of man (Chapter 1:27).

The 1st and 2nd sections lead to the main topic of this section, the creation of man.

Apparently, the word day (yowm) has different meanings in chapters 1 and 2. In chapter 2:4, "day" according to Psalm 90:4 could mean a long period of time. On the other hand, the individual creative days in Chapter 1 seem to represent normal 24-hour days, which is evidenced by the mention of evening and morning. However, there must have been longer periods of time between the individual days. In my opinion, this is also indicated by the choice of words, a second, a third... a fifth day.

On a fourth day of God's activity, the heavenly bodies were made – not created. In the sense of the report from the perspective of an observer on the earth's surface, this could mean that God made the sun, moon and stars visible to the observer by causing the previously closed cloud cover to tear open for the first time. Only then could the celestial bodies serve as signs and to determine times, days and years.

On a fifth day, the word, create (bara) is used again for the first time after verse 1: And God created the great sea monsters and all living creatures that move in the water. In contrast to plant life, the new beginning of these living beings required a creative act from God. After the creation of the aquatic animals and birds, God pronounced a blessing on His creatures for the first time.

In the description of the creation of man, the word "bara" (to create) occurs three times. And God created man in his own image, in the image of God he created him; He created them male and female (chap. 1:27). This underlines the special position of humans in all of creation. Man is blessed and given a commission: And God blessed them and said to them, Be fruitful, and multiply, and fill the earth, and subdue it, and have dominion over the

fish of the sea, and over the birds of the air, and over every living thing that creeps on the earth (v. 28).

A "perfect world" before the fall?

God's verdict on his creation was this: And God looked upon all that he had made; and lo and behold, it was very good (v. 31). According to the interpretation of many young creationist believers, the entire creation - i.e. the entire universe including the earth and all life on earth - was very good at this point in time. Is this interpretation correct? God called his works very good, but not the darkness, because we read in verse 4: God saw that the light was good. Then God separated the light from the darkness.

Nevertheless, many Christians view the entire creation before the Fall as a "perfect world" in which there was no death of any kind, including no death of animals. It seems to me that a perception principle is responsible for the emergence of this idealization, which will be clarified with the help of Fig. 1.

In the case of so-called double images (optical illusions), one of the two images is recognized first. When you look at it for a long time, even from different directions, your perception suddenly changes and you see the different representation. First, I recognize the face of an old woman with a headscarf (see Figure 1). I automatically interpret the image in such a way that it matches a model from my imagination. If my perception suddenly changes and I recognize the half-profile of a young woman, the same black and white pattern is interpreted differently. Accordingly, we prefer to form simplified ideal images from the complex information in the first chapters of the Bible - e.g. a "perfect world" before the Fall



and postpone death and suffering until afterward. To enable this simplified overall view, details such as the question of the cause of chaos and darkness in verse 2 are omitted.

Fig.1 Double image "Woman with mother in law" (Boring)

As shown above, many biblical interpreters see the chaos in verse 2 not as a precursor to the divine preparation of the earth as a habitat for man, but as an effect of Satan's fall. For me, the scientific assessments of many years of research on global catastrophes are credible. The

famous article of L. W. Alvarez (Nobel prize in Physics in 1968) and co-authors on the Cretaceous-Tertiary extinction opens with the words: *In the 570-million-year period for which abundant fossil remains are available, there have been five great biological crises, during which many groups of organisms died out* (see L. W. Alvarez, W. Alvarez, F. Asaro, H. V. Michel, Extraterrestrial cause for the Cretaceous-Tertiary extinction. Science 208, 1095–1108 (1980)).

I take the following descriptions of the state of the universe and earth from the biblical account of creation:

- 1.) The beginning of the visible world through the utterance of God's creative word (see Appendix 3).
- 2.) At a later date, the Earth's surface was a dark chaos as would be expected after the impact of an asteroid more than 10 km in diameter (see Appendix 2).
- 3.) Through God's speaking, the habitat on earth was restored in a six-stage program and man was then created.

The dating of the creation of man was derived from the genealogies recorded in the Bible. Since the comparison of parallel genealogical registers shows that individual genders were left out in some registers, the Bible can only be used to indicate the magnitude of the time that has passed since man was created. According to the Bible, humans are approximately 10,000 years old. 1000 years would be an order of magnitude too little and 100,000 years would be an order of magnitude too many.

A human age of ca. 10,000 years seems completely wrong compared to the research results of anthropology. As an argument for this low age, I would like to recall the age of cultural history, which is assumed to be around 10,000 years. I consider the creation of the man, who created culture, as the creature created in the image of God. Other human-like creatures*) apparently lived long before man was created in God's image.

In analogy to the double image presented above, I recognize in the creation report both a young part i.e. the creation of man, and an old part i.e. the creation of heaven and earth, the age of which the Bible leaves open (cf. my article: *Does the Bible teach a young creation?*).

Appendix 1:

William Kelly,

https://bibletruthpublishers.com/the-early-chapters-of-genesis/w-kelly/lbd16291
"In the beginning God created the heavens and the earth." It is the absolute
commencement of creation, and in the most pointed contradistinction from the seven days.
The question is solely about the true unforced meaning of the written word of God...

^{*)} Sir J. Eccles – Nobel Prize winner in medicine in 1963 – also makes a fundamental distinction between human-like creatures and humans created by God. He writes: "Since our experienced uniqueness cannot be explained by materialistic solutions, I am forced to trace the uniqueness of the self or soul to a supernatural spiritual creation." Eccles introduces the term "anticipatory evolution" to describe his own idea of the idea of a purely materialistic evolution through chance and selection. See J.C. Eccles *The evolution of the brain – the creation of the self*. Piper, Munich, 1993. See also my essay: Evolution, information and the mystery of the human mind.

The philosophies, as well as the religions, of antiquity were wholly ignorant of creation. Of God, of the "beginning," they knew nothing. Dreams of evolution were the earliest folly...

To the believer it is the simple yet deep truth, that a beginning was given to everything that exists: if God says it, he perceives that nothing else can be true. For it is impossible to admit an effect without a cause; but reasoning never can rise at best beyond. There must be a First Cause; it can never say, "There is." This God alone can and does affirm: "In the beginning God created the heavens and the earth." God brought the whole ordered system into being. The form, nature, and aim, are not here explained: such a detail had no proper place here. That He created all is a primary and momentous truth.

But there is not a word in scripture to warrant the strange and hasty assumption that the universe was brought into being in the six days of Genesis 1:3-31, so often referred to throughout the Bible. Construe the six days as men will, it is out of the power of any on just principles of interpretation to deny that the first day begins with light, and that the first two verses are marked off in their nature, as well as by their expression, from the work of the six days. Nothing indeed but prepossession can account for the mistake, which the record itself corrects. "In the beginning" has its own proper significance, and is in no way connected with "the days," save as the revealed start of divine creation, and in due time (however probably immense the interval) leading to that measure of time only when the constitution of things was made for Adam, for the race...

Neither verse 1 nor verse 2 is a summary of the Adamic earth, which only begins to be got ready from verse 3. There are, accordingly, three states with the most marked distinction:

original creation of the universe;

the earth passed into a state of waste and emptiness; and

the renovation of the earth, &c. for man its new inhabitant and ruler.

Science is dumb, because wholly ignorant, how each of these three events, stupendous even the least of them, came to pass.

The Gap in Gen.1,1 - A theory only?

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Over the last couple of hundred years, the position that most Christian teachers and expositors have taken on Genesis 1:1-2 is that it refers to an original creation of God wherein, after some kind of judgment, the earth passed into a state of chaos and ruin. Then, in Genesis 1:3-31, in six literal days, God engaged in a reconstruction of the earth, with the creation of animal life and mankind being added to the reconstruction (vss. 21, 27). Bible teachers have concluded, therefore, that there is a period of undisclosed time between the creation of the earth (vss. 1-2) and its reconstruction (vss. 3-31). They do not attempt to calculate how long this gap was because Scripture is silent about it, but simply to note that it is there. Some have speculated that the gap might have been millions of years, and this perhaps explains the presence of the fossils in the geologic layers of the earth's crust, which were once creatures that were part of the earth's original creation.

This interpretation has been the belief of virtually every respected Bible scholar of the 19th century and the early part of the 20th century — from J. N. Darby, G. V. Wigram, W. Kelly, C. H. Mackintosh, F. W. Grant, W. Scott, A. J. Pollock—to C. I. Scofield, R. A. Torrey, E. Schuyler English, A. C. Gaebelien, H. A. Ironside, M. F. Unger, etc. The headings in "*The Scofield Reference Bible*" on Genesis 1 reflect this interpretation. It says: Verse 1 — "The Original"

Creation;" verse 2—"The Earth Made Waste and Empty by Judgment;" and verses 3-31 — "A New Beginning — the First Day, etc."

Appendix 2: Asteroids

On July 21, 1994, the collision of comet Shoemaker-Levy 9 with the planet Jupiter was observed from Earth. Before impact, the comet broke into several pieces, which caused huge explosions during the collision. This created fireballs the size of the Earth. This event enabled the model calculations of asteroid impacts on Earth to be empirically tested and essentially confirmed. Due to the existing risk of an asteroid collision with Earth, various countries have started corresponding research programs. A NASA research program aims to detect all near-Earth asteroids with a diameter of over 1 km.

REPORT ON NEAR-EARTH OBJECT IMPACT THREAT https://trumpwhitehouse.archives.gov/wp-content/uploads/2021/01/NEO-Impact-Threat-Protocols-Jan2021.pdf

Asteroid strikes, while statistically rare, do happen on a somewhat sporadic frequency, with large asteroids impacting Earth more rarely and smaller asteroids more frequently, as is shown in the Earth's geologic record (see Table). This matches the known near-Earth asteroid population in that there are millions more 60 meter sized objects than 1 km objects. As of November 30, 2019, 8,839 NEOs have been discovered out of a predicted population >25,000.12 The table below summarizes current understanding of size, impact intervals, overall population estimates, and potential damage.

Comparisons of Estimated Size to Potential Estimated Damage

Characteristic Diameter (in meters) of Impacting Object	Approximate Average Impact Interval (years)	Estimated Object Population	Energy Released (Megatons TNT)	Estimated Damage or Comparable Event
25-30	100-200	>1.3 million	<2	Fireball, airburst, shockwave, minor damage
50	1,000	200,000	10	Local damage comparable to that of largest existing thermonuclear weapon
140	20,000	25,000	~500	Destruction on regional scale
300-500	~100,000	5,000	<10,000	Destruction on continental scale, many millions dead
1,000	700,000	930	100,000	Global effects, 100s of millions of casualties
10,000	100 million	4	100 million	Mass extinction of many species, including humans

The Earth and even more clearly the moon and various planets show the scars of hundreds of asteroid impacts. A crater in Mexico with a diameter of at least 180 km aroused particular interest and was probably caused by the impact of an asteroid with a diameter of around 10-20 km. The extinction of the dinosaurs along with a global mass destruction of animal life around 65 million years ago (Cretaceous-Tertiary Event or K-T Event) is attributed to this collision.

The first indication of a global catastrophe towards the end of the Cretaceous period was a strong increase in the element iridium in the corresponding layer. Since a significantly higher iridium concentration was detected in fragments of asteroids than in terrestrial rock samples, this indicated an asteroid impact. The worldwide detectable iridium anomaly at the boundary layer between Cretaceous and Tertiary proves the global dimensions of the catastrophe. Goderis and co-authors stated: *In the geologic record, the K-Pg event is marked by a thin layer of clay, found so far in more than 350 marine and terrestrial sections across the globe* (Goderis S., et al. Globally distributed iridium layer preserved within the Chicxulub impact structure. Science Advances 7, (2021). DOI: 10.1126/sciady.abe3647).

Fig.2 is reproduced from this article.

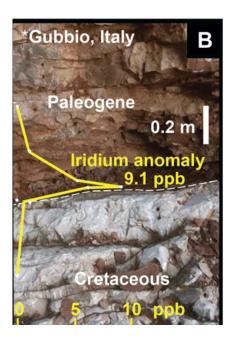


Fig.2 Iridium anomaly as measured by Alvarez et al.

The energy released in this collision led to the direct devastation of approximately 1 million km² through pressure waves and earthquakes. Tidal waves at least 100 m high devastated coastal areas extending 20 km into the country. The vaporized rock masses led to global conflagrations in which most of the organic materials on the earth's surface burned. Dust and smoke formed an opaque layer, shrouding the entire earth in darkness. The combination of all the consequences most likely led to global devastation of the biosphere.

The fragments of asteroids that exist today, the craters and large-scale, partly global deposit anomalies are clear indications of asteroid impacts on Earth. The resulting devastation can be estimated fairly reliably based on the relationship between the crater diameter and the kinetic energy of the celestial bodies.

Appendix 3: On the physical meaning of God's creative word

In 2004, Anton Zeilinger (Nobel prize physics 2022) expressed the conviction that information is the real basis of physics and pointed to the biblical root of this ancient wisdom by quoting the beginning of the Gospel according to John: *In the beginning was the Word*. The Bible quotation cited by Zeilinger, together with verse 3 of the Gospel according to John, leads to the statement: *In the beginning was the Word*... *everything came into being through the same*. This means that all creation has its origin in the Word.

The word – Greek: logos – means, among other things, "thought, idea, plan" or "information". The Jewish Bible scholar and philosopher Philo of Alexandria wrote about this ca. 2,000 years ago: "The immaterial world was already completed within the divine Logos, and the world perceivable with the external senses was made according to this model."

The divine plan of creation was already completed as primal information (pure information, independent of time and space) before the real world was created. How did the divine original information become creation? We find an answer to this question in Hebrews 11:3: Through faith we understand that the worlds were framed by the word of God, (rhema = speaking = time course of information), so that things which are seen were not made of things which do appear.

Likewise, in the Psalms, God's creative actions are linked to his speaking Psalm (33:9 and 148:5): For he spoke, and it was; he commanded, and it stood there; and For he commanded, and they were created.

Philo of Alexandria also sees a connection between "speaking" and "creating". He writes: "For while God spoke the word, at the same moment he created."

Taking the Creator's Word into account, the beginning of our universe can be understood as follows: God expressed by speaking his eternal plan, i.e. pure information, at the beginning of time. He transferred his plan (logos) into a time course of information (rhema) – and thus he created time and space and both the visible world and the invisible world. The extremely high flow of information of the Creator's Word is, according to my hypothesis (see my articles: "He is the Creator of All Things" and "Information in the Bible and in Science"), equivalent to a huge amount of negative energy, which caused the original inflationary expansion of the Primordial universe.

According to this view, the origin of the universe was not the "big bang" of an explosion that Sir Fred Hoyle derided, which could only have resulted in great chaos. Rather, the Creator's Word spoken at the beginning of time was the cause of the wonderful cosmos, and with the utterance of the divine plan as the Creator's Word, the unfolding of the universe began, which has not yet been completed today.

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