

Part IV

Further Proofs

Chapter ١٠

General Scientific Notions

١٠/١ Laws of the Universe:

Allah, the Exalted, says in the Holy Qur'an:

(الشَّمْسُ وَالْقَمَرُ بِحُسْبَانٍ * وَالنَّجْمُ وَالشَّجَرُ يَسْجُدَانِ * وَالسَّمَاءَ رَفَعَهَا وَوَضَعَ الْمِيزَانَ)

Meaning: The sun and the moon (run) to all-precisely reckoned (courses), And the star and the trees prostrate themselves. And the heaven, He raised it up, and laid down the Balance. (Surah Ar-Rahman – Verses Nos. ٥ - ٧)

(وَالْأَرْضَ مَدَدْنَاهَا وَأَلْقَيْنَا فِيهَا رَوَاسِيَ وَأَنْبَثْنَا فِيهَا مِنْ كُلِّ شَيْءٍ مَوْزُونٍ)

Meaning: And the earth We spread out, and placed therein firm mountains, and caused to grow therein all kinds of things in due proportion. (Surah Al-Hijr – Verse No. ١٩)

(اللَّهُ يَعْلَمُ مَا تَحْمِلُ كُلُّ أُنْثَىٰ وَمَا تَغِيصُ الْأَرْحَامُ وَمَا تَزْدَادُ وَكُلُّ شَيْءٍ عِنْدَهُ بِمِقْدَارٍ)

Meaning: Allah knows what every female bears, and by how much the wombs fall short (of their time or number) or exceed. Everything with Him is in (due) proportion. (Surah Ar-Ra'd – Verse No. ٨)

(إِنَّا كُلُّ شَيْءٍ خَلَقْنَاهُ بِقَدَرٍ)

Meaning: Surely We created everything by a determined estimate. (Surah Al-Qamar – Verse No. ٤٩)

(وَإِنْ مِنْ شَيْءٍ إِلَّا عِنْدَنَا خَزَائِنُهُ وَمَا نُنزِّلُهُ إِلَّا بِقَدَرٍ مَعْلُومٍ)

Meaning: And there is not a thing, but with Us are the stores thereof. And We send it not down except in a known measure. (Surah Al-Hijr – Verse No. ٢١)

(الَّذِي لَهُ مُلْكُ السَّمَوَاتِ وَالْأَرْضِ وَلَمْ يَتَّخِذْ وَلَدًا وَلَمْ يَكُنْ لَهُ شَرِيكٌ فِي الْمُلْكِ وَخَلَقَ كُلَّ شَيْءٍ فَقَدَرَهُ تَقْدِيرًا)

Meaning: He to Whom belongs the dominion of the heavens and the earth, and Who has begotten no son and for Whom there is no partner in the dominion. He has created everything, and has measured it exactly according to its due measurements. (Surah Al-Furqan – Verse No. ٢)

(وَأَنْزَلْنَا مِنَ السَّمَاءِ مَاءً بِقَدَرٍ فَأَسْكَنَاهُ فِي الْأَرْضِ وَإِنَّا عَلَى ذَهَابٍ بِهِ لِقَادِرُونَ)

Meaning: And We sent down from the sky water (rain) in (due) measure, and We gave it lodging in the earth, and verily, We are Able to take it away. (Surah Al-Mu'minin – Verse No. ١٨)

(وَالَّذِي نَزَّلَ مِنَ السَّمَاءِ مَاءً بِقَدَرٍ فَأَنْشَرْنَا بِهِ بَلْدَةً مَيْتًا كَذَلِكَ تُخْرَجُونَ)

Meaning: And Who sends down water (rain) from the sky in due measure. Then We revive a dead land therewith, and even so you will be brought forth (from the dead). (Surah Az-Zukhruf – Verse No. ١١)

These verses confirm the concepts of modern science that everything in the heavens and the earth is subjected to precise, pre-calculated equilibria. The celestial bodies move in space at calculated speeds in carefully calculated directions, so that there is equilibrium between the gravitational and the centrifugal forces evolved from their motion. Accordingly, these celestial bodies remain in their respective orbits until the time Allah wills. The sun, whose distance from the earth is pre-calculated, provides calculated amounts of energy that are essential for maintaining the life of all earth's creatures. If the sun were a little closer, all that is on earth would burn, and if it were a little further away from

earth, all living creatures would die or freeze. Similarly, the moon influences the tide ebb and flow of the seas and oceans. The position of the moon is pre-calculated, such as if it were closer to the earth, the tide ebb and flow phenomena would be disrupted, and seawater would flood the earth.

Life systems on the planet Earth are also governed by precise equilibria. The composition of the air inhaled by living creatures is precisely maintained in a controlled manner. Atmospheric oxygen neither increases indefinitely so as to burn all living beings, nor is it steadily consumed, so that life would come to an end. This is due to the process of photosynthesis that returns to the earth ۴۰۰-۵۰۰ million tons of oxygen a year. This very amount of oxygen compensates for the same amount of air inhaled by the living creatures. The different layers of the earth's atmosphere, such as the ozone layer, play a key role in protecting life on earth, and through interaction, both with the air and with cosmic radiation, the composition of these layers are repeatedly renewed.

Living creatures, whether marine or land animals, birds or insects, are subject to precise equilibria that are controlled by atmospheric, geological, and botanical phenomena. Similarly, in the human body, there is a precisely calculated role for each element, even for the trace elements. For example, blood oxygen is controlled through the process of respiration, and this in turn is controlled by the brain via sensors in the aorta and the arteries that send electrical signals to control the processes of inhaling and exhaling. The percentage of water in the blood is also controlled by a group of complex systems, i.e. the sweat glands and the pituitary gland that control the kidney's discharge of excess water. All these balances are referred to precisely in the Holy Qur'an.

۱۰/۲ Life Cycles

Every living creature, animal or plant, has its life cycle, during which it interacts with the soil, water, and air as well as with other creatures.

Consider the following Qur'anic verses that refer in such eloquent terms to living creatures being brought out of dead matter, and to the origin and repetition of the life cycle:

(تُولِجُ اللَّيْلَ فِي النَّهَارِ وَتُولِجُ النَّهَارَ فِي اللَّيْلِ وَتُخْرِجُ الْحَيَّ مِنَ الْمَيِّتِ وَتُخْرِجُ الْمَيِّتَ مِنَ الْحَيِّ وَتَرْزُقُ مَنْ تَشَاءُ بِغَيْرِ حِسَابٍ)

Meaning: You make the night to enter into the day, and You make the day to enter into the night, You bring the living out of the dead, and You bring the dead out of the living. And You give wealth and sustenance to whom You will, without reckoning. (Surah Al-Imran – Verse No. ٢٧)

(إِنَّ اللَّهَ فَالِقُ الْحَبِّ وَالنَّوَى يُخْرِجُ الْحَيَّ مِنَ الْمَيِّتِ وَمُخْرِجُ الْمَيِّتِ مِنَ الْحَيِّ ذَلِكُمُ اللَّهُ فَاتَى تُؤَفِّكُونَ)

Meaning: Verily! It is Allah Who causes the seedgrain and the fruitstone to split and sprout. He brings forth the living from the dead, and it is He Who brings forth the dead from the living. Such is Allah, then how are you deluded away from the truth?" (Surah Al-An'am – Verse No. ٩٥)

(قُلْ مَنْ يَرْزُقُكُمْ مِنَ السَّمَاءِ وَالْأَرْضِ أَمَّنْ يَمْلِكُ السَّمْعَ وَالْأَبْصَارَ وَمَنْ يُخْرِجُ الْحَيَّ مِنَ الْمَيِّتِ وَيُخْرِجُ الْمَيِّتَ مِنَ الْحَيِّ وَمَنْ يُدَبِّرُ الْأَمْرَ فَسَيَقُولُونَ اللَّهُ فَقُلْ أَفَلَا تَتَّقُونَ)

Meaning: "Say (O Muhammad SAWS): "Who provides for you from the sky and from the earth? Or who owns hearing and sight? And who brings out the living from the dead and brings out the dead from the living? And who disposes the affairs?" They will say: "Allah." Say: "Will you not then be afraid of Allah's Punishment? (Surah Yunus – Verse No. ٣١)

(يُخْرِجُ الْحَيَّ مِنَ الْمَيِّتِ وَيُخْرِجُ الْمَيِّتَ مِنَ الْحَيِّ وَيُحْيِي الْأَرْضَ بَعْدَ مَوْتِهَا وَكَذَلِكَ تُخْرَجُونَ)

Meaning: He brings out the living from the dead, and brings out the dead from the living. And He revives the earth after its death. And thus shall you be brought out (resurrected). (Surah Ar-Rum – Verse No. ١٩)

(إِنَّهُ هُوَ الْبَدِئُ وَيُعِيدُ)

Meaning: Verily, He it is Who begins and repeats (or originates the creation of everything, and then repeats it). (Surah Al-Buruj – Verse No. ١٣)

Modern science has verified that the human life cycle interacts with the life cycles of the other surrounding elements. The human body consists of the same elements as the earth, and it is on its products that it feeds. Man interacts with the elements through the processes of

metabolism, excretion, and the continual regeneration of his cells until he dies and then he disintegrates into the same elements. Here are some examples of the life-death-life cycle.

A- The Cycle of Living Cells:

This cycle is manifested by the continual degradation and regeneration of human cells and those of other living creatures. Living cells transform into non-living substances (i.e. the dead coming from the living), and they are then replaced by new cells (i.e. the living coming from the dead). As an example, dead skin cells are renewed every 29-30 days, red blood cells every 120 days, blood platelets every 7-10 days, and white blood cells every 7-12 hours.

B- The Carbon Cycle:

Carbon is the backbone of all organic matter from which all animal and plant cells are formed. Man feeds on animals and plants, animals in their turn also depend on plants, and finally, the plants get their food from the air during the process of photosynthesis from carbon dioxide and water. Accordingly, the dead air creates the living plant cells on which man and the animals feed in order to form their living cells from the dead digested food. As for the carbon dioxide, this is renewed in the air during the respiration processes of humans, animals, and plants (the 'dead from the living'), and the disintegration of these beings after their death.

C- The Nitrogen Cycle:

Nitrogen is a major element of the composition of the amino acids from which the proteins of living animal cells are formed. Man gets protein through eating animals and plants, and in their turn, the animals also feed on vegetable protein. Thus, plants are the primary source of nitrogen for all living creatures. Plants obtain their nitrogen from natural or synthetic fertilizers ('the dead'). As for the natural organic fertilizers, they evolve from the excretions and the disintegration of living creatures into the soil. The proteins of these beings decompose to become ammonia, which is transformed either into nitrates, nitrites, or into atmospheric nitrogen due to the action of bacteria upon them. Artificial fertilizers are produced industrially from atmospheric nitrogen.

D- The Energy Cycle:

Plants utilize solar energy for the photosynthesis of carbohydrates and proteins through living plant cells; and through feeding on these plant cells, human beings and animals obtain the energy necessary for their life. Different kinds of fossil fuels such as coal, oil, and natural gas have resulted from the decomposition of the remains of living creatures in the depths of the earth, thousands of years ago and man now uses these types of fuel, along with wood, as sources of energy. (See ٥/١٤ - fuel)

١٠/٣ Identity of the Creation:

Any unit of creation, whether living or inanimate, consists of typically identical units that do not differ or vary. All the atoms of matter are composed of positively charged protons of identical mass and charge, neutral neutrons of identical mass, and negatively charged electrons of identical mass and charge. This applies to all elements and substances. Solid substances are either elements or compounds, and solid elements are either metallic or non-metallic, either of which is composed of identical atoms, structured in identical geometric shapes, with fixed spacings and identical angles, even if they are comprised of billions and billions of atoms. (A cubic centimeter of iron, for example, contains about $8,0 \times 10^{23}$ atoms, which equals 80,000 million, million, million atoms.) Every solid compound results from the union of the atoms of two or more elements in identical ratios, identical spatial distribution, and with unique characteristics. Every part of every living creature, whether an animal or plant, consists of certain types of cells that are similar in their anatomy, chemical composition, and functions, whatever the number of the cells is. Every living creature is formed, grows, and decays in the same typical pattern, and has the same anatomy and physiology. Not even one member of a species deviates from this course.

This is stated in the Holy Qur'an, inimitable as it is:

(الَّذِي خَلَقَ سَبْعَ سَمَاوَاتٍ طِبَاقًا مَا تَرَى فِي خَلْقِ الرَّحْمَنِ مِنْ تَفَاوُتٍ فَارْجِعِ الْبَصَرَ هَلْ تَرَى مِنْ فُطُورٍ * ثُمَّ ارْجِعِ الْبَصَرَ كَرَّتَيْنِ يَنْقَلِبْ إِلَيْكَ الْبَصَرُ خَاسِئًا وَهُوَ حَسِيرٌ)

Meaning: Who created seven heavens as strata. In no way can you see in the creation of The All-Merciful any disparity; so return your

gaze; do you see any rent?. Thereafter return the gaze, again and again, the gaze turns over to you spurned, and it (becomes) regretfully most weary. (Surah Al-Mulk – Verses Nos. ٣ - ٤)

١٠/٤ All in Pairs

Qur'anic verses refer to the fact that all creatures, whether living beings or solid matter, are created in pairs. This means that this phenomenon does not only apply to animals and plants:

(وَمِنْ كُلِّ شَيْءٍ خَلَقْنَا زَوْجَيْنِ لَعَلَّكُمْ تَذَكَّرُونَ)

Meaning: And of everything We have created pairs, that you may remember (the Grace of Allah). (Surah Adh-Dhariyat – Verse No. ٤٩)

When we examine the constituents of the atom, we find that every positively charged proton has a negatively charged antiparticle, an antiproton. As for neutral atoms, there are an equal number of oppositely charged electrons and protons; negatively charged electrons have positively charged positrons as counterparts. Even the neutral neutron has its counterpart, the antineutron. Moreover, it is now thought that the visible celestial bodies that are spread in infinite space have invisible counterparts called Black Holes. These Black Holes are thought to be the negative form of matter in universe. Yet, it is Allah Who is the All-Knowing. (See subject no. ٦/٥ “Living Creatures, are all in pairs”)