

The Law of Inertia and the Role of Angels in the Life and Motion of the Universe

Redefining the Law of Inertia and the Concept of Force in the Monotheistic Worldview

-What is the Law of Inertia and what does it express about the motion or rest of objects?

-Based on the Law of Inertia, what factor causes a change in the state of objects?

-What is the difference in perspective between Muslim and non-Muslim scientists regarding the nature of force and energy, and what is the connection between these concepts and angels?

“Every object will remain at rest or in uniform motion in a straight line unless compelled to change its state by the action of an external force.”

The sentence you just read is Newton's First Law, known as the Law of Inertia. According to the Law of Inertia, all objects resist any change in their state of rest. This means if an object is at rest, it 'wishes' to remain in that state forever, or if it is moving with a constant velocity in a specific direction, it 'wishes' to continue its motion forever with the same speed and in the same direction, unless an external force compels it to change its state.

For example, a book on a table will maintain its state of rest as long as no external force is applied to it to move it. Likewise, a ball thrown into the air would continue

its straight-line motion forever with its initial velocity in the direction it was thrown, if not for the forces of air friction and Earth's gravity.

There is no doubt regarding the existence of these external forces that cause objects to change their state; all scientists, both Muslim and non-Muslim, affirm this. The only difference in perspective lies in the whatness and nature of these external forces. The real question is: Are the forces mentioned in the Law of Inertia merely abstract and mental concepts, as modern physics suggests, or is there a living, conscious reality, with power and will, hiding behind these forces and energies present in the universe, as believed by Muslim thinkers?

In this lesson, we will seek to answer these questions and redefine the concept of force and energy and its connection with the Divine angels from the perspective of Islamic Wisdom.

Discovering the Nature of Force and Its Connection to the Realm of *Malakūt*

Knowing that there are forces in the world that compel material objects toward movement and action is an important issue. However, it is even more important to know the nature of these forces and what source they originate from. Based on the Law of Inertia, sperm within the male testes have a tendency to remain at rest and do not move on their own. Yet, we observe that during sexual intercourse, the sperm fluid exits its production site in a perfectly precise and calculated process, and with the help of the whipping movements of its flagellum, it traverses the long and winding path from the vagina to the fallopian tube to reach the ovum (egg).

Along this path, in an intelligent screening process that is truly one of the masterpieces of biological engineering, many sperm perish, and only the strongest ones survive. Ultimately, only one sperm succeeds in breaking through the ovum's outer layer and fertilizing its nucleus. After fertilization, the process of cell multiplication begins in the embryo, and through a series of continuous and coordinated actions, highly specialized organs and tissues are created from a formless cellular mass, which is itself another profound wonder.

What force moves the sperm from its place and provides the energy it needs? What factor causes only one out of millions of sperm to fertilize the ovum? How does a regular cellular mass transform into highly specialized tissues and organs in the body of an embryo? Can these complex and intelligent processes truly be attributed merely to the intrinsic nature of the materials themselves, while completely ignoring the role of the World of Command (*Ālam al-Amr*) and the intervention of abstract, non-material beings in these processes?!

The seed of a plant, much like the sperm we discussed, must logically not move. Since it is a material body, according to the Law of Inertia, it must remain still in its place, regardless of its state. However, some of the most extraordinary movements occur within these small, living seeds. When a seed is placed in the soil, it begins to absorb water and swells like a sponge. By absorbing water, the enzymes within the seed become active, converting complex nutrients like starch into simple sugars and providing the necessary energy for the initial growth of the plantlet. With the activation of enzymes and access to nutrients, the seed begins cellular respiration. Then, the radicle (rootlet) sprouts downward and the plumule (shoot) sprouts upward. Thus, a large plant, sometimes reaching several meters in height, emerges

from the heart of a tiny seed. Every single leaf of this plant has its own unique identity, and no two leaves are exactly alike! And these are just the things we see with the naked eye. Inside plant cells, when processes like photosynthesis and cellular respiration occur, there is a frenzy of activity, each leaf is like a factory where not even a single electron is misplaced!

These are just two examples of the millions, or rather billions, of movements that occur at the macroscopic and microscopic levels in the components of the material world. If we were to continue our adventure and try to count and document all the motions and activities happening in the universe, it would fill volumes of books; such a task is nearly impossible.

Now, the question is: What forces guide and manage this precise and complex motion, as well as the astonishing order in the universe that, if disrupted for even a moment, could cause the world to collapse?

The Materialist Perspective: An Incomplete Understanding of Phenomena

The reality is that humanity today deliberately, and by insisting on their own ignorance, which they label as modern science, prefer to regard the World of Creation or this world as self-sufficient and independent of the World of Command and the Realm of *Malakūt*. They do not want to believe in a world other than this world because then they would be forced to accept the obligations of this faith, and this is what the rebellious human soul flees from.

Otherwise, the reality of a world beyond this physical one is so self-evident that it could never be concealed. If any mature person turns to their own intellect and *fitrah* and lifts the veil of habit from their eyes, they realize that all global events can never be justified in a way that negates the necessity of the World of Command and the intervention of abstract spirits in the affairs of the cosmos. No matter how many material justifications we fabricate for the world's occurrences, we ultimately reach a point where acceptance of the phenomenon is only possible by relying on the World of Command and the involvement of non-material entities in its happening.

Most empirical scientists interpret the world's phenomena with a purely materialistic outlook. This is why, despite significant advancements in science, the human being still lacks a precise analysis of many world events and categories. However, because the desire for discovery and knowledge is inherent in our nature, we try to compensate for this ignorance by resorting to theorizing. One of these important categories is the concept of force and its nature. We all know that forces are the foundation of the universe and its principal architects; if they did not exist, nothing, as we know it, would be present. It is forces that hold electrons around an atom's nucleus and form molecules by binding atoms together. Without forces, there would be no atoms, no molecules, and as a result, no matter. Forces hold stars and planets in their orbits, and without them, galaxies would fly apart. Forces and their interactions play a key role in defining the structure of space and time. Without them, the concepts of distance and time would be meaningless, and the universe, as we know it, would not exist.

Angels: The Divine Agents and Forces of the Universe

Modern physics lacks a convincing answer regarding the whatness and nature of forces. According to the science of physics, force and energy are external factors that, although real, have an undetermined nature; we can only observe their effects. However, in Islamic wisdom, there is a precise and clear answer to the question of what the nature of force truly is.

The word force or power in English is equivalent to the Arabic word '*Quwwah.*' From the perspective of Islamic philosophers, the forces discussed in the Law of Inertia, that cause objects to change their state, are the very forces of the universe, and the forces of the universe are none other than angels.

The Shi'a philosopher and sage, *Mullā Muḥsin Fayḍ Kāshānī*, quotes in his book '*Ilm al-Yaqīn* that there is nothing in this world (the material world) except that it has a spiritual force and power in the other world, and that force is referred to as angels in the *sharia* [1].

Allāmah Ḥasan Zādah Āmulī also considers the universal forces to be the very Divine angels. A more precise term for the universal forces is Divine Forces, because there is only one existence in the universe, and that is the Holy Essence of Allah. Allah is the Absolute and Infinite Existence that fills the universe, and nothing exists in the cosmos besides Him. The beings that we see, including ourselves, are all manifestations and emanations of the Divine Name, and do not possess independent existence on their own.

In the Quran, various names are mentioned for Allah. He is the All-Hearing and hears. He is the All-Merciful and loves. He is the All-Knowing and is aware of all that

happens in the world, and so on. These are the verbal names of Allah. We call upon Him with these words and focus our attention on Him through these terms.

However, beyond these verbal expressions, there are real truths and perfections. For instance, when we say Allah is the Ever-Living, this attribute of being living is not merely a word. Rather, it signifies a truth and perfection in Allah's Essence and gives life to beings and makes them living. Similarly, when we say He is the All-Able, it means there is a perfection in Allah's Essence that bestows power upon the beings of the world, and every powerful entity in the universe derives its power from Allah.

Angels are, in fact, the manifestations of these names and perfections. This means that when these Divine Names intend to carry out an action in the world, they do so through the force and power of the angels. For example, many things in the universe need to adhere and connect to one another. This task is performed under the name the Connector and executed by the angels who are the manifestation of Allah's name, the Connector, and embody this name within themselves. Similarly, giving every being a shape or form is the task of the angels who are the manifestation of the name the Bestower of Forms (*Musawwir*). No two people in the world are one hundred percent alike. There are different faces and body structures for the number of people on Earth. The leaves are the same way; no two leaves in the world are completely identical. All this variety is all an output and product of Allah's Name the Bestower of Forms, created through the form-creating angels.

Therefore, when we speak of the gravitational force, electrical force, magnetic force, or any other force in physics, we, in reality, speak of the force of the angels.

It is the angels who, with their force, cause the Earth to rotate around its axis and around the Sun. Angels fertilize the clouds and transport them from one point to another. The movement of sperm toward the ovum, the process of fertilization, the formation of the embryo, and all the processes leading to the birth of a human being are managed by the angels and through their power. Angels are the agents of God and His Executive Arms in the cosmos, who manage the affairs of the world by the permission of God [2]. In subsequent lessons, we will learn more about the characteristics and function of angels in the universe.

References

[1]. Mullā Muḥsin, Fayḍ Kāshānī, *Ilm Al-Yaqīn fī Usūl Al-Dīn*. Qom: Manshūrāt Baydar, 1997-8.

[2]. Quran, 79:5