

# CHAPTER-13

## GRAVITY

### Highlights about the chapter GRAVITY in MATERIALISTIC UNIVERSE by Ramesh Varma.

**Note:** Chapter over GRAVITY is not an encyclopedia. Challenger has illustrated only which relates to the new or contrary findings/understandings with some existing references to make the subject understandable.

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- Nature dislikes any space having absolute nothing. This law of the Nature is the 'gravity force' as explained by the Challenger.
- World understands four Universal fundamental forces, gravity force is one of it. Nature's principle suggests like one God that there can not be too many fundamentals, it should be one and that is the Materialistic-Universe. Nothing like pure energy, energy too a state of the matter but under specific conditions acts as energy.
- World has related gravity magnitude to mass of the body. This simple parameter of the gravity does not work over the Black-holes. Under this simple parameter a Black-hole is sufficient to compact the whole Universe in a massive Black-hole for ever and ever, which is not the fact thus adopted parameter has short coming at some level. What is that? Read under this chapter over GRAVITY.
- Matter composed of only of the nuclei would results for the decrease in the magnitude of gravity; a factor which results for the explosion of Black-holes after reaching a limit to its density.
- Temperature of the body has effect over its gravity. At absolute-zero temperature gravity magnitude is reduced. Explanation is under this chapter.

# CHAPTER - 13

## GRAVITY

### Information taken from the World:

- Force of gravitation:**

Some very important types of forces in the nature are one of which is called the force of gravitation or gravitational force. In the Universe material masses are found to exert attractive force on each other. Although the real nature of this force is very intricate yet their existence is universal.

- Law of universal gravitation:**

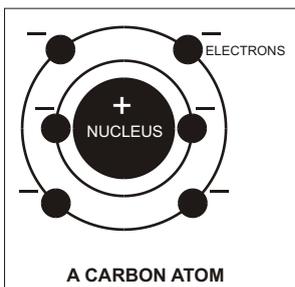
This force of gravitation is directly proportional to the mass of each of the bodies and inversely proportional to the square of the distance between their centres.

- Planetary motion:**

There are a number of planets in the solar-system. Planets revolve in somewhat elliptical orbit around the Sun which is situated at a focus of the ellipse. Each planet is attracted by the Sun with a force given by the law of gravitation, while due to the velocity of revolution a centrifugal force also acts on the planets and these two forces are equal though acting in opposite directions.

- Atomic structure:**

Atoms of the elements are also constituted on the same principle. The mass of the atom is mostly concentrated in a very small central part called the nucleus having a positive electric charge. A number of very tiny units of negative charge called electrons revolve around the nucleus. The centrifugal force of the revolving electrons just equals the electrical attraction between the oppositely charged nucleus and an electron. The nucleus is thus like the Sun and electrons like the planets so that the atom may be considered as a miniature solar system.



### World:

Gravity force exists between any two or more masses or concentrations of energy. It is universal. The force is proportional to the product of the masses concerned and inversely proportional to the square of the distance between them. There are four types of fundamental Universal forces that govern everything in the Universe; gravitational force is one force among these forces.

Under column Science by a renowned Physicists.  
 FROM NEWSPAPER, YEAR-2006

**What is the reason for magnetic energy and gravitational force?**

This question cannot be answered simply or easily. It needs a fair amount of elaboration. ....  
 ..... You have asked for the reason for the gravitational force. It is possible that the existence of mass might be fundamentally connected with this. In the study of astronomy and cosmology there are hints that some more fundamental particles might account for gravitation being what it is. So the simple answer to your question is that I do not quit know. ....

### Challenger:

World has accepted gravity force as a Universal fundamental force bound to exist in the Universe thus has not gone deep to understand that what causes gravity. Existence of gravitational force is not a fundamental Universal fact but it is caused by some circumstances/factors (by the matter) which the World does not know. Like acceptance of one God, for the existence of Universe there can't be more than one fundamental Universal truth or the fact and that truth/fact is the Materialistic Universe. Acceptance of more than one Universal fundamental fact is against the principle of Nature. Different states of the matters behave differently. White-matter is also a state of the matter and said matter acts as energy under specific conditions.

World considers nucleus of the atom being the positively charged and the electrons negatively charged. Due to positive and negative charge, both are attracted towards each other, this balances the outward centrifugal force of the electrons. By just naming the two opposite sides with positively charged and negatively charged, we can't prove the attraction. By this understanding we are just diverting our mind from the real cause/fact

Under simple parameter adopted by the World which relates gravity magnitude to its mass, a mass on being compacted with the addition of mass would results to keep becoming bigger and bigger and denser and further denser with no end to its density till the whole Universe compacted to one mass. One Black-hole is sufficient to engulf the whole Universe to keep the mass dense and compact for ever and ever. But in fact, like this is not happening, a Black-hole on reaching a limit in its density explodes to form galaxy or celestial bodies. So there is some error in understanding the gravity.

To understand some forces as fundamental-Universal forces was the need with the Physicists/Astronomers to proceed ahead in Science but after developing Science knowledge to a level where we can understand that what is gravity and what causes it; to remain at root level by accepting gravity as a Universal fundamental fact is not the motto of a true Physicists/Astronomers.



### Before any explanation about gravity and what causes it; some facts related for the explanation need their understanding:

- **FACT:** Nature dislikes absolute nothing space.
- **FACT:** Not more than one Universal fundamental force/truth can exist.
- **FACT:** Two parallel laws that matter can not be destroyed but can only be converted to a state from another. And energy can not be created but can only be converted from one form to the other; both laws/facts can not exist together, thus understood form of the matter as energy has to be accepted as a state of the matter to merge two parallel fundament to one.
- **FACT:** When a person gets wealth beyond some limits, he/she wishes to donate some money among the poor and poor always remain eager to have money from those who have in the excess. Similarly empty (absolute-nothing) micro-pockets of the matter keep on attracting the matter (dense-matter). And the dense-matter, which has least or nil empty (absolute-nothing) spaces always remain eager to give matter to the rarer-matter (empty spaces). This attraction between the matter and absolute-nothing micro-pockets (spaces) in the masses/celestial-bodies is understood as gravity.
- **FACT:** When a matter/body attracts the other, from far off we can not understand easily that which body is attracting which one.

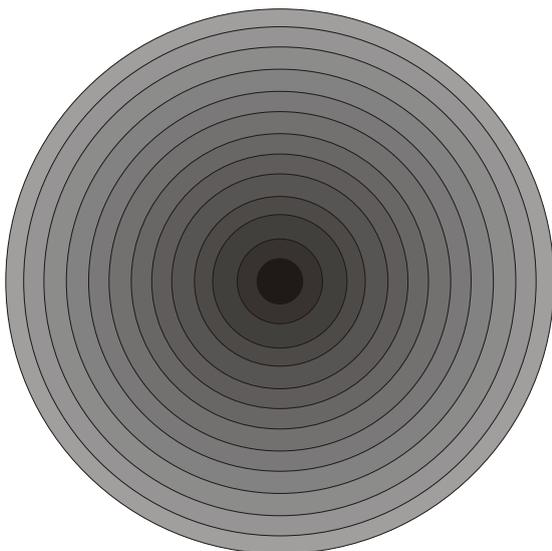
## Experiment with magnet to understand the said fact:

Suspend a bar-magnet with a thread over a peg and take an iron bar of the same dimensions and suspend it too with the thread at the same height near to the bar-magnet. Both the bars (magnet and iron) would attract each other. A person who does not know that which bar is the magnet, would not be able to understand from a distance that which bar is attracting which one. Similarly if densest possible matter lose its own gravity magnitude by any reason but on being close, the adjacent celestial body attracts it (densest body) with greater force; from far off, we can not understand this phenomenon that which one is attracting which one with gravity force like attraction between the bar-magnet and iron-bar.

● **FACT:** Two giant celestial bodies attract each other by their gravity and a celestial body on becoming bigger attracts other body with greater force but why celestial body with its gain in gravity collapses inside towards its centre to become denser?

Gravity is the attraction-force between the two masses (celestial bodies) OR between the two objects OR between the two atoms OR between the two sub-atomic particles OR between the two white-matter microest-particles. After understanding the said fact, Challenger has been able to answer the above said query.

To understand the true reason, perform an experiment. Take a tape of rubber, like rubber of a balloon of size 2 centimeters wide and of length 30 to 40 centimeters. Start wrapping rubber tape around your finger, after giving each wrap you would feel more compression by the tape and after some wraps, you can not bear the pressure/compression/tension/compactness. This all has happened by the addition of tension of each molecule of rubber and of each wrap towards the centre.



Similarly when a body gains mass, gravity attraction of each atom with another adjacent atom plays its own role. Consider a body consisting of shells, each shell of the thickness equivalent to thickness of one atom. Like rubber tape, every atom in the shell attracts each other and the magnitude of attraction between each atom results in the shrinkage of every shell. Every shell again plays its own role. Magnitude of the gravity attraction of each atom in each shell and of all the shells results for the collapse of mater towards the centre.

Every atom under pressure has a limit to hold electrons or white-matter within its structure thus after crossing this barrier of pressure limit of the compression by the increased gravity; central (core) matter releases some trapped white-matter by retaining its nuclei only.

Further nucleus too has a limit under compression to retain its existence and on being further compressed by the gravity, organization of nuclei explodes to form stars/Suns/ celestial bodies etc.

● **FACT:** Why the densest matter core formed of nuclei explodes on reaching a limit in its compactness?

The above stated fact states that nucleus explodes on reaching a limit in compression/compactness; but why organization of nuclei explodes? Simple understood fact suggests that matter on becoming denser and further denser attracts more matter and after becoming extreme dense it sucks light-rays too to become a black-hole. As per World's understanding about the gravity, Black-hole has no known reason to explode thus it should keep on sucking matter and light-rays too of the Universe till all the matter of the Universe condense into only one Black-hole for ever and ever. In reality it does not happen; a black-hole on reaching a stage of compactness of matter or size explodes to form a galaxy. This could only happen if the densest-core of the black-hole instead of being compacted further, swells or expands or intends to swell (explodes). What reason intends the densest-core (or densest-matter or nuclei) to swell or to explode? Challenger has understood the reason of it; which is stated as under:

Gravity force is the attraction force of one organization of the matter towards the other because both the matter-organizations have microest pockets containing absolute-nothing or absolute-nothing like spaces. Nature dislikes any space with absolute-nothing, so either the absolute-nothing spaces of one matter-organization sucks the matter of the other OR matter of the other matter-organization gets attracted to fill the space having absolute-nothing. The result is that both matter-organizations attract each other. Matter on becoming denser and denser keeps on losing or reducing absolute-nothing spaces within its atoms. When a matter is compressed to such an extent that it has only the nuclei, it left with the least possible absolute nothing spaces. On being further compressed by the upper shells of the matter, inside core -matter forming of only of the nuclei left with nil absolute nothing space thus nuclei- organization reverses its action resulting to intend to go out to fill the absolute-nothing spaces of the upper-shells' matter (or out side of its organization in space).

This situation concludes that matter consisting of only of the nuclei loses its gravity. But this understanding is quite different rather controversial with the understanding of the World. World understands that matter consisting of only of the nuclei would be densest and thus has great mass so has gravity to its maximum. World has formed a parameter to relate gravity with the mass of the body (celestial-body). If this adopted parameter has an error of say 10% or so, it would not be possible to detect it by any means, because we have no means to weigh (measure) the actual mass of the dense-core or of the celestial-body.

If a body was formed of only of the nuclei, only then the concerned may be able to understand very easily, what the Challenger has concluded. An object or celestial body consisting purely of the nuclei can never exist but core of nuclei only is deep in side a dense body (black-hole) thus it is not possible to verify, except to understand. This densest-core of the nuclei only would not be more than 10% of the total mass of the body (black-hole), so if this mass loses its own gravity to attract other bodies (mass), it would make no difference for the black-hole to prevent sucking of matter from the space (surroundings) by its gravity formed by the upper shells of the matter which are above the core of the nuclei only. This dense core consisting of only of the nuclei would be like inert body for the mass of upper-shells till it explodes. Core-organization formed of the nuclei only would not attract the matter of upper-shells but matter of upper-shells would attract the core-matter of the nuclei resulting to compact the core-organization.

Organization formed of only of the nuclei at the core of the black-hole would keep on growing till its pressure or intention to go out to fill the absolute-nothing spaces (pockets) out side exceeds than the gravity-pressure of the shells above it. This situation would results for the explosion of the black-hole.

**Note:** Above said fact has confirmation from the Sun that why the Sun/Star generates and releases constant white-matter (energy). Explanation is under the relevant chapter.

● **FACT:** When celestial body like black-hole keeps on increasing its gravity, its central densest possible shell over the nuclei core must also lose its own gravity resulting to prepare for its explosion.

Another reason for the explosion of a dense-body is resulted by the escaping white-matter. When every shell of a dense body keeps on becoming denser to further denser towards its centre (core), compressed and trapped white-matter finds great resistance for its escape. On being further compressed a stage comes which increases the pressure of trapped white-matter over the shells but on the other hand every shell towards the core/centre keeps on reducing its gravity because of being becoming denser. This situation results to explode the formation of shells matter with the help of extremely dense core of the nuclei.

Gravity varies at every shell of the celestial body; it is the last at the centre and keeps on increasing at every shell towards its outer surface. This system keeps the centre dense along with increasing the situation to explode on being compressed to a limit.

● **FACT:** Matter loses some magnitude of its gravity at absolute zero temperature:

To understand gravity, Challenger has considered structure of the atom made up of sub-atomic particles of the matter only (nothing like energy only, electrons too a state of the matter). Nucleus of the atom is like the Sun and electrons are like the planets. At absolute zero temperature, nucleus does not get white-matter rays (particles) from the space (surroundings) thus nucleus could not radiate (transmit) its rays. This results to stoppage of the spin of the nucleus and also orbital motion of the electrons.

When atom is not at absolute-zero temperature, atom gets white-matter from the space and atom by acting as a catalyst/factory re-releases white-matter to space after converting white-matter of the kind, say A to kind-B. Said conversion of matter from kind-A to kind-B results for spin of the nucleus and orbital motion of the electrons with the same principle, like that of solar-system. Challenger has concluded that outward force (centrifugal force) acting over the electrons is balanced by the pull of gravity between the electrons and the nucleus as both are a state of the matter.

As mass, thus gravity of the nucleus is much greater, so electrons must not be too far away from the nucleus. As the electrons move (orbit) with fast speed an absolute-nothing like space is developed over the path of the electrons. This absolute-nothing like space(s) formed over the path of electrons inside the atom(s) would be resulting to act as gravity because of the Nature's principle that Nature dislikes absolute-nothing space.

At absolute-zero temperature, electrons of the atom stop their motion thus absolute-nothing like space over the orbital path disappears and this space is occupied by the white-matter of the space. This would be resulting for the decrease in the gravity of the atom (matter) at absolute-zero temperature.

Atom is composed of spherical sub-atomic-particles; sub-atomic particles are also composed of sub-sub-spherical particles. When every smallest part of matter is composed of spheres, some spaces in microest form would exist in the atom (matter) which would like having absolute-nothing. So matter at absolute-zero temperature would not lose gravity to zero but definitely would lose magnitude in its gravity.

Matter at absolute-zero temperature would attract other bodies with less gravity force but the same matter at higher temperature would attract matter with higher gravity force. This system ensures existence of two bodies at a distance from each other at far off (in the cold region) in the solar-system. When white-matter rays radiated by the two objects/bodies are low which by the repulsion of rays keeps the objects/bodies away from each other; their gravity too becomes feeble being at low temperature. That is why so may objects but for example the newly discovered object/planet Xena is existing with its moon/satellite at low temperature zone of solar system without being collided with each other.

In laboratory by creating absolute zero temperature, we can not study/notice variation in the gravity of the matter; being very small mass to notice effects.

**Why the falling body approaches the Earth with accelerated speed?**

Gravity at every shell over the Earth towards the sky keeps on decreasing. When a body falls, gravity magnitude at its upper half part is less than the part which is facing the Earth, thus body moves towards the Earth. At every step magnitude of the gravity keeps on increasing thus body falls towards the Earth with accelerated speed.



## CONCLUSION:

**What causes gravity?**

- It is the Nature's principle that it dislikes a space with absolute-nothing. A matter (atom) is composed of sub-atomic particles of the white-matter. Shape of every sub-atomic-particle is spherical. If we make an object of any size and of any shape with the particles having shape of spheres; however fine particles we use, we can not make it perfectly solid, it would be porous or left with spaces. Similarly every celestial body has microest-spaces in its every atom which can be understood as absolute-nothing spaces. These absolute nothing spaces attract adjacent effective range matter/body/bodies to fill the absolute-nothing spaces. This attraction is the gravity.

- Gravity force is affected by the rise and drop in the temperature Challenger has observed and concluded that with the increase in temperature gravity magnitude rises whereas at absolute-zero gravity magnitude is reduced. At absolute-zero temperature, gravity may not become zero but reduces at its lowest possible.

- Density of the mass too plays its role in the magnitude of the gravity. World understands that more the dense mass, more the gravity but this parameter does not hold good blindly with the same rate.

**NOTE:** We do not have celestial bodies near to our Earth which are at absolute-zero temperature or with the massive core composed of only of the nuclei to verify the claim/fact stated by the Challenger. In our solar-system only two celestial-bodies would be having their cores of only of the nuclei, which are the Sun and the planet Jupiter; Jupiter with very small nuclei core.

Physicists/Astronomers by not understanding the fact related to variation in the gravity magnitude by the rise/fall in the temperature and on becoming a mass dense or composed of only of the nuclei; have calculated (not measured) some what less density of the celestial-bodies than actual. There is no mode to verify, hence it is only with human-brain that he can understand that what is the fact and what is the correct.