



THE CORE (2003)

INTRODUCTION

Core, According to scientists, our planet Earth is made up of 3 layers i.e. 1. Crust (30 miles thick), 2. Mantle (2000 miles thick), 3. Core. The core is further categorized as inner core which is super hot solid ball of metal (mostly iron and nickel) and the outer core which retains super hot molten metals spinning around the inner core.

Importance of spinning molten metals:

According to science, when extremely hot molten metal moves it gives rise to an electromagnetic field. In the same way, the Earth's outer core's spinning molten metals produce electromagnetic field. Due to this we have North and South poles and an electromagnetic shield

which protects us from dangerous solar winds that comprise of radioactive particles and micro waves. So in short, this electromagnetic field and hence the spinning outer core is our necessary friend.

Introduction to the movie *The Core*:

This movie spin around a single problem that is the core of the earth has stopped spinning and we need to restart it's spinning in order to save the whole world from disaster. If not coped with this problem, there will be multiple static electricity discharges that cause super storms, microwaves and radioactive particles from sun will breach the Earth's atmosphere that boil everything on Earth. Everything electronic will be damaged and literally fried. The only way to save the planet is to get in the core and somehow restart the spinning of outer core's fluid. US government makes a team and send it to the core to restart the spinning.

Following is the report of how they come to know that earth's spinning core has stopped, how they proceed the plan to cope with the problem and which problems do they face in doing so.

REPORT

The movie starts with the scene that the analog wrist watch of a business man who is about to begin an important meeting stops suddenly and he feels disgust. He enters the room and starts the meeting. He has just started addressing but fell down on the table suddenly. Following this incident, people outside starts screaming because of multiple random car accidents and nobody knows why this is happening.

Government action:

Dr. Joshua Keyes, the professor of geophysics at University of Chicago is delivering a lecture about sound waves to his students and giving

some demonstration using a musical instrument. All of sudden, two government officers come in and get Dr. Keyes with them to a secret government place, respectfully. As he reaches there, he meets his friend Dr. Levenque Serge who is there too without knowing that what is going to happen.

They go in the big hall and get surprised to see a number of dead bodies there. Army General comes in and tells them the incident. He says that at around 10:30 am 32 civilians within 10-block radius just hit the ground and die at the same time. Dr. Keyes guesses that all the victims are having pacemakers and that comes out to be true. Further Dr. Keyes and Dr. Serge says that it can happen due to some electromagnetic waves interference with the pacemakers that regulate the heart vibrations of the patient. He says that it can be done by some Electromagnetic Pulse but there exists no such weapon that can generate it. Army General gets calm and says that as it is not a matter of foreign

attack so let us be a bit easy. But Dr. Serge and Dr. Keyes take this matter seriously and General ignores it.

Dr. Keyes' attempts to find reason:

Now Dr. Keyes is in his lab with two of his brilliant students. They hear news that at Trafalgar Square-London, the birds suddenly start hitting the ground and die. There happen multiple accidents due to birds' interference with the traffic. His students tell him about the other alike incidents last month in Australia and Japan. Dr. Keyes suggests that the reason behind falling birds is the interference of changing electromagnetic field with the birds' natural navigational system. Dr. Keyes starts gathering information with his students and tries to sort out the actual problem.

NASA Space shuttle crash landing:

A crew of three astronauts is attempting to land a space shuttle.

Everything is going fine but after re-entry to earth atmosphere their navigational system (guidance system) gets disturbed and they go out of pre-decided course. Rebecca Child, an astronaut of exceptional navigational skills, suggests the remarkable co-ordinates for a bit safe crash-landing. She along with Bob Iverson (an astronaut) and the other astronaut lands at Los Angeles River under the bridges. NASA officers do not seem good to hear about crash landing.

Discussion between Dr. Zimsky and Dr. Keyes:

Dr.

Keyes makes a documentation and handover it to Dr. Zimsky, a very genius and well-known scientist but a bit arrogant. Dr. Keyes suggests that the core of the earth has stopped spinning and that's the end of the world. Dr. Zimsky hesitates to believe him but Dr. Keyes looks confident. Dr. Zimsky ponders over his documentation and come to know that Dr. Keyes is

not wrong. His arrogance hinders him to appreciate Dr. Keyes' work.

Meeting at Pentagon:

In the meeting, Dr. Zimsky and Dr. Keyes starts to explain the situation to the government officers. They explain that Earth has three layers (i.e, crust, mantle and core). The core is categorized as outer and inner core. The outer core spins around inner one. The spinning core comprise of molten metals and according to science, moving hot molten metals give rise to electro-magnetic field. Thus the spinning core moving produce an electro-magnetic shield around the earth that protects us from harmful microwaves and radioactive particles. Now, the problem is that the core of the earth has stopped spinning and we are vulnerable to the above dangerous outcomes. Moreover static electrical discharges will bring high scale storms. Dr. Keyes and Dr. Zimsky demonstrates the consequences by burning an apple with a lighter and air freshner. They

say that this can be with earth within one year if we cannot solve the problem.

General says that how we can solve the problem. Dr. Zimsky and Dr. Keyes says that we need to get in the core and make it spin again. Dr. Keyes says to general that it is impossible to get in because we have been able to reach only 7 miles and this mission is about going in the earth more 2000 miles deep. At this comment, Dr. Zimsky says that if we can be able to go in somehow, then? All get amazed and the remarkable mission begins from here.

Visit to Dr. Brazzelton's lab:

Dr. Zimsky takes them to the Dr. Brazzelton's (Braz) laboratory where he is working on a device that can make a continuous hole in any rock of any size and width. Dr. Braz has high-frequency pulse lasers with resonance tube ultrasonics which is the peculiarity and amazing part of this device. This device works same as the

ultrasound shockwaves are used to break kidney stones.

Moreover, Dr. Braz has made a special alloy which he calls Unobtanium. For making this he combined crystals in a tungsten-titanium matrix at super-cool temperature. The specialty of this alloy is that it will take heat and transform it into energy very much like a solar panel. The ship will be made of this material and also the suits of the team going in the earth. But Dr. Braz tells that it will take 10-12 years to make it. Army General offers him 15 billion dollars to make it in just 3 months. Dr. Braz accepts the proposal and projects starts readily.

Arresting a hacker- Mr. Finch:

FBI arrests possible world best hacker to control the flow of information throughout the whole internet which will be helpful in the mission to restart the core's spin motion. FBI arrests Mr. Theodore Donald Finch, Mellon University, MIT. Government instead of punishing

him, get him in the mission. Mr. Finch suggests them to call him Mr. Rat.

Getting Miss Rebecca Child in mission:

Higher officers appreciate Rebecca (Beck) for having remarkable navigational skills which she showed up in space shuttle landing and make part of the mission to in the core of earth.

Team:

1. Dr. Zimsky (knows the planet)
2. Dr. Leveque (knows the weapon system)
3. Dr. Joshua Keyes (Leader and has built navigation system)
4. Rebecca Child (Astronaut and now a terranaut)
5. Bob Iverson (Astronaut and now terranaut)
6. Dr. Brazzelton (knows the ship)

Meeting with world's different scientists:

Scientists

from different countries are called at the meeting hear the briefing about the mission. Dr. Keyes is going to lead the briefing but Dr. Zimsky asks General to give him lead because he is more famous and eligible for leading position than Dr. Keyes but General does not agree to him and retains his own decision. Here for the first time General and Dr. Zimsky talks about “DESTINI Program” which nobody knows except them. It will be explained later.

Meeting starts and Dr. Keyes starts briefing the plan.

1. Dr. Braz build up a ship that would be able to reach the center of the earth.
2. Then we will deliver explosive charge (nuclear bombs) in the core that will be able to restart the spin of core.

3. Dr. Zimsky will calculate the scale of the explosion needed. There will be a detonation producing 1000 mega-tons of energy.

4. Ship will be powered by a small nuclear reactor.

The ship will have 6 compartments i.e, a locomotive unit, navigation compartment, living quarter, engineering compartment, bombs compartment and a weapon control module. Dr. Braz says that each damaged compartment must be ejected/separated from the ship otherwise it would damage the whole ship.

Another disastrous news from Rome:

Mr. Rat tells that Rome is damaged on a higher scale due to high scale static electricity discharge. On hearing this, General orders to start the mission.

Initiating the mission:

After much practice, team is ready for mission initiation. Beck and Bob drives the

ship. Deep Earth control unit will supervise the mission. Dr. Braz names his ship VIRGIL. Mission starts at the place suggested by Dr. Zimsky and that is South Pacific sea. Reason for choosing this is that here earth's crust is thin and it becomes easy to get in. Journey starts.

When they get near the bed of sea, they meet underwater earthquake (seismic activity precisely) hence the water flow changes and cross-currents cause to lose control over the ship. Finally, getting out of this trouble by adjusting speed and direction they reaches into solid crust. After sometime, they get into the mantle (the second layer of earth). But another trouble is waiting for them. Bob sees dark spots and calls Dr. Zimsky and Dr. Keyes says that it nothing but an empty space.

Serious Mishap:

They get into the empty space and hit the crystals. They come out in their suits to see what happened. They come to know that they are in

crystal layer and a large crystal is stuck in their laser drilling impeller. To make it functional, Dr. Braz starts cutting it with the laser cutter but he soon faces lack of oxygen in cutter. All of sudden, the lava leaks from upside and fall down. Dr. Keyes put his own oxygen in the cutter's oxygen supply and hence cutting of crystal gets successful but Dr. Keyes gets unconscious.

Death of Bob:

All of sudden, a crystal hits Bob's head and he dies. His falls in the lava. Now the team sadly resume the mission and continue to go in the earth.

Death of Serge:

After coping with the crystals they meet the diamonds. Beck successfully crosses this hinderance but the last diamond rock damages the weapon control compartment. Dr. Keyes, Dr. Zimsky, Dr. Serge and Dr. Braz were checking bombs there. They rushes get out of there except Dr. Serge who

stuck there and hence dies but before he dies he handover important weapon control stuff to Dr. Keyes. The damaged compartment is now ejected.

A little emotional verbal fight occurs between Dr. Keyes and Beck because Beck has the responsibility of ejecting compartments. But both knows it is necessary to proceed the mission in order to save the whole world. Journey continues and they reach the center- the core.

More errors:

The core fluid's density come out to be less than the estimated value and so, 1000 mega-tons blast will not be enough to restart the spin of core.

Project DESTINY (DESTINI):

Dr. Zimsky says that this mission has failed now let's get back home. Moreover, Dr. Zimsky suggest General to initiate Project DESTINI as an alternative. At the control station people oppose initiating this project. Dr.

Zimsky explains that DESTINI (Deep earth seismic Trigger initiative) is a device that produce massive earthquake in the core and can restart the core spinning by this activity. Dr. Zimsky invented it by beaming high power E.M waves down deep earth fault lines and hence can generate a massive devastating earth quake in these layers. But it is dangerous because whole the world will be vulnerable to its aftermaths.

Plan C:

Dr. Keyes and Dr. Braz oppose Dr. Zimsky and suggest to go for plan C which is to find out new way to restart spinning. Rebecca (Beck) takes the majority decision and decides to proceed the mission which is now against General orders. Dr. Zimsky gets angry and tells them that they going to suicide. Dr. Braz stand up and punch him down. Dr. Zimsky gets unconscious. Dr. Keyes and Dr. Braz starts thinking about plan C proceeding.

Microwaves breach in San Francisco:

Mr. Rat reports that microwaves have attacked San Francisco and are boiling the city to steam. On hearing this, General orders James (head of controls-project destini) to initiate the project DESTINI. Mr. Rat also dislike this project and negotiates secretly with Dr. Keyes about it. Dr. Keyes tells him to somehow slow down the project DESTINI.

Mr. RAT's efforts to stop DESTINI:

Now Mr. RAT begins to try to slow down DESTINI by hacking its control units. Control units' security system gives him tough time but at the end he gets over its control system and finally diverts its power and hence slows it down.

Dr. Zimsky's suggestion in Plan C:

Dr. Zimsky suggests that they have to use wave interference because one explosion cannot do it. So, plan is to do multiple

blasts one by one and the waves of one blast will reinforce the waves of other's blast and so on. Five 200 mega-tons nuclear bombs will be blasted one by one and a big nuclear shockwave will be produced restarting the spin of the core.

Now another problem arises. Bombs cannot be sent out as they cannot endure the external heat and pressure. So, the plan is to put five bombs in five different compartments and eject them.

Dr. Brazelton's Death:

Now another problem is that the undamaged compartments cannot be ejected from inside. Someone has to go out and move a manual lever to allow the ejection from inside. Putting the lever out is the engineering mistake of Dr. Braz. Dr. Braz decides to do it himself because it is his ship and he says that he will get it fail. There is 9000 degree Fahrenheit temperature outside the empty space around compartment shells and they do not have enough liquid nitrogen to cool it down. Wearing

just the protective suit, Dr. Braz go outside in the scorching heat and successfully does the job. But he cannot endure the extreme heat and dies there.

Activating the nuclear bombs:

Now, without wasting time, Dr. Zimsky and Dr. Keyes put five bombs in five compartments. After blowing three bombs they realize that they have done a calculation mistake and resetting the remaining two bombs will not be enough.

Dr. Zimsky's Death:

All of sudden ship destabilizes and the hanging bomb falls down and gets Dr. Keyes' shoulder. Dr. Zimsky tries to help him but cannot as bomb is much heavy. Communication between them and Rebecca drops. Suddenly, Rebecca changes the course of ship and the bomb get off Dr. Keyes' shoulder but then gets Dr. Zimsky's leg. The

compartment is about to eject so Dr. Zimsky ask him to get out of it and save the planet.

Dr. Zimsky tells him that he wants make last blast of higher scale, he can make it so by combining fuel rods of nuclear reactor with the bomb. Dr. Zimsky dies when compartment blows off.

Last Nuclear Blast:

Now Dr. Keyes has just 3 minutes to work- to save the earth. He pulls out fuel rod from the nuclear reactor that is driving the ship and turn off ship's power. He combines fuel rods with the nuclear bomb and eject the compartment manually. Now Dr. Keyes and Rebecca are left and only one compartment with one impeller is left. Last nuclear bomb blasts creating a massive explosion and successfully the core of the earth starts spinning. All the team at control station cheers and becomes glad.

Coming back Home:

Now, Beck and Dr. Keyes sit on their seats may be waiting for nothing. Suddenly an idea strikes Dr. Keyes' mind. He tells Beck that this ship is made up of unobtanium which can convert heat into energy like a solar panel and the temperature outside is above 9000 degree Fahrenheit. They change the wiring of the ship and take energy (current) from the unobtanium. Now, they start getting back. The laser ultrasonic drill is not working so they are coming back by finding ways between tectonic plates of earth. With a stroke of fortune they find ways and come up out of the Mantle into the sea water.

Now the engine stops as the temperature gets low. They have no communication with the Deep earth control unit. But atleast control unit knows that they are now in sea near Huwaili.

Rescuing Beck and Dr. Keyes:

General with Mr. Rat and his others come out to find them in sea by SONAR method.

Helicopter rove over the sea and search but cannot find them. They also listen Dolphin's sounds but General ignores it. An idea hit Mr. Rat's mind and he screams out that the dolphins are responding to ultrasounds of the ship (The Virgil).

Helicopter search at the area from where sound are coming and finds something solid at 800 feet depth. As they pull it out, it turn out to be the Virgil and hence Dr. Keyes and Rebecca come back home.

Singing the unsung heros:

Mr. Rat hacks all the networks of world and spread news of the working of this mission's heroes around the world.