

**DOOMSDAY INTERVIEW WITH LEADING
ASTRONOMER AND ASTROPHYSICIST
DR FRANK DRAKE, PRESIDENT OF S.E.T.I INSTITUTE**

Jan 2001

1. INT: A TELEVISION STUDIO.

TERRY SPRINNER is interviewing the President of SETI , Dr. FRANK DRAKE in the studios of his Popular Chat show.

SPRINNER

...DR DRAKE; from 1960, you have been searching for Extra-terrestrial intelligence at SETI. Did you get any reply from E.T.? eheheheheh...

DRAKE

eheheh.....No, unfortunately.....no sign of life has so far been Detected...but...eventuallyI am sure that, we will!

SPRINNER

Dr Drake; assuming that some day we were to make contact with an alien Civilisation, what will humanity gain from such a Contact?

DRAKE

We will finally know with certainty that we are not alone! Perhaps we may even learn, why we are here!!!

SPRINNER

Is it true that recently a group of Astrophysicists have Confirmed the presence of planets in other star systems?

DRAKE

Yes, we have detected the presence of Planets, in a few dozen nearby Star systems. This discovery was made by 2 Swiss researchers, when they measured star wobbling effects, due to the presence of large planets.

The 2 discovered that the mass of the Planet or Planets can Be measured by the shift of the Star spectrum Lines.

The greater the shift, the larger the mass of the Planets!!!

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SPRINNER

But, how can we be sure that such Planets have Earth like characteristics, that are essential to support human life?

DRAKE

At this present moment we do not have a Telescope large enough to be able to see Earth size like Planets in other Star systems. However, I am confident that, within the next 20 years we will have such Telescopes. The real challenge will be in delivering the technology in deep space, so that we may get very high resolution images!!! I have no doubts that, Blue Ocean like planets, teeming with life, will be discovered within days of the said Telescope being activated and used!

SPRINNER

Dr Drake, The investments required for the construction of a very large telescope in deep space, are enormous!!!

Some of us may consider the obscene costs unnecessary, And would prefer to see large sums of money spend on Improving living conditions here on Earth for some of us!

DRAKE

The survival of the Human race, will remain at all time In the domain of space exploration!!! To reach for the stars, it is mankind only hopes for survival!! And we must put in place our priorities right!!!

SPRINNER

Why should we go in search of other Earth like Planets, when we already have one? It seems to me that we been having serious difficulties in managing responsibly this planet of ours, without looking to mess up remote one!!!

DRAKE

Let me tell you why!!! Our Planet in the next 5 billion years will be consumed by the Sun, After most of the sun Hydrogen will be converted into Helium. Then it will Expand into a red giant swallowing the Earth in the process!!! But you do not need to wait that long before we are wiped out by the activities of our restless Planet!

Geologically speaking, in a not too distant future, the earth will produce massive volcanic up evils that could end the dominion of the great Ape!! Without having to Mention the threat from large Asteroids impacts!!!

SPRINNER

But, the same thing can be said for other star systems in our Galaxy!!! They too will eventually run out of fuel and die!!!! And I assume that like our own solar system they would also experience Asteroids impacts!!

DRAKE

Stars with 50% the mass of our sun will burn stable for 20 billion years+, hence they more stable for sustaining life.

SPRINNER

Assuming that in the future we were to discover 1 or 2 habitable Planets somewhere in our Galaxy, how do you propose to take us there?

DRAKE

In the near future we will colonise our solar system, the human race will grow very fast technologically during this phase. That very growth will provide mankind with the tools for galactic colonisation.

SPRINNER

Let assume for a moment, that sometime in the future we could Send a large Human expedition to colonise some nearby Star, say 30 light years away from us!!! In your opinion, How many years do you estimate such trip would require to get them to destination?

DRAKE

It would take approximately, 700.000 years or so, if they travelled at...let us say.....45.000 kms per hour!!!

SPRINNER

In that case, it couldn't be Homo Sapien-Sapient to reach destination!! But some other creature, that for sure would not have any resemblance to it's predecessors!!

DRAKE

Yes; you are absolutely correct in saying that!!

SPRINNER

Dr Drake, recently it was announced by a Scientist that the Moon is moving away from us at a Rate of, 3cms per year, and that, in only few hundred million years it will destabilise our Planet, altering the Earth spin.

Our Planet Revolutions will become chaotic, changing dramatically our world climate. And that Chaotic climatic Inversions fatal to living organisms, will kill us all!!!

DRAKE

Unfortunately for us, YES!! That is another factor that further support my case for migrating elsewhere!!!

SPRINNER

Dr DRAKE, is it true that in 3 Billion years from now, our Galaxy will collide with the Andromeda Galaxy at speed of 400 kilometres per second?

DRAKE

YES, it is true.

SPRINNER

Can any Solar system in our Galaxy survey the inferno?

DRAKE

It is highly unlikely! Our chances for surviving such awesome collision, I would say, is one in a trillion!!!

SPRINNER

Then, it would be more logical to leave the Galaxy altogether!!! Would you agree to that?

DRAKE

YES..... it.... would be wise to do so!!

SPRINNER

Dr Drake, with the knowledge of our hopeless destiny, such a trip seems to be the only way out, if we are to avoid extinction of the Human race, indeed of organic life, has we know it!!!

DRAKE

YES!!! You are absolutely correct!!! I am glad that, you have been able to answer the facts of life by way of your own reasoning and intuition BRAVO!!!

SPRINNER

Dr Drake, in order to start this Mega-galactic project, I assume, we need to lay down the foundations of space exploration!!! Would you be so kind to give us your own ideas, on the steps we should take so that We may build a solid foundations toward such awesome task!!

DRAKE

The first elementary steps I believe have already been taken! However we need to increase the level of research funds, in order that new revolutionary technologies could be discovered here on Earth. For example Lighter and faster Spacecraft that need not to be blasted out by way of controlled explosions!!!

We will need new revolutionary energy drive to replace the millions of litres of fuel needed to blast a single spacecraft out of our Earth Gravitational field!!!

This is the first essential factor, toward the true beginning, of our conquest of space!!! It would lay

The very foundations of Space colonisation!!!

The second step, would be to create a number of near orbital stations, so to increase zero gravity research projects in a wide range of disciplines.

The third step, would be the development of new exotic materials, capable of shielding living organism from highly Energetic Cosmic particles.

SPRINNER

Let assume for a moment that, soon we will be able to develop such technologies, such as, highly sophisticated Spacecraft's driven by some highly sophisticated energy source, and build all the necessary near orbit space stations, and even the first space city!!!!

How do you propose we will overcome the lethal and hazardous

Environment of deep Space??? And how could we possibly survive all the large amounts of dust particles floating around at speeds in excess to 90 times the speed of sound, together with billions of Asteroids, and comets??? And how could we survive the constant Bombardment of Gamma rays and x-rays???

DRAKE

Space cities would need to be made of pure iron, which is to be found out there in asteroids. The thickness of the cities outer layer must be quite large, in order that living organisms are unaffected!!! Failing that, Ionising radiation's would interact with living tissues by transferring energy to molecules of cellular matter, resulting in permanently impairing cellular functions!!

In other words, killing the very cells, killing us!!!

You must consider that around the Earth, the radiation belt consists of electrons and protons that are trapped around the magnetic equator. This region extends above

The Earth for more than 64,000 km. The Electrons and protons are supplied by Cosmic rays and by the Solar Wind. Should a Human be exposed to such hazardous Environment, it would not survive!!! Such areas must not be considered for human Space activities. For example, a dose of 4000 rads would damage the vascular system, causing cerebral EDEMA!!!

A dose of 1000 rads, would result to loss of fluids and electrolytes within the cellular spaces, and, the Gastrointestinal tract!! That can kill the subject within a week!!! But it would take even less than a 1000 Rads to kill a us!!! In fact with only 150 rads, you severely damage the bone marrow, and you could be dead in only 4 weeks!!!!

SPRINNER

In view of your statement would I be correct if I was to say that, living in space at this time is not advisable?

DRAKE

YES!!! At present it is not advisable for us to do so!!!

However in a not too distant future, mankind could alter its make up, in order that he may do so!!!!

SPRINNER

So, how do you propose to build all these Telescopes and mega-cities, if we can't be exposed to the physical make up of Space!!!

DRAKE

In the very near future we shall build highly sophisticated robots, capable of fulfilling such tasks!!!

SPRINNER

I see!!! And how do you propose they could take care of the infinite quantities of dust and rock particles flying out there? Would such Robots be immune to impacts???

DRAKE

Well....we do know that dust like particles, Asteroids, and comets, are out there, moving at enormous speed, and carrying with them huge amounts of kinetic energy!

To give my honest opinion, I would say that, for the near future these issues do represent for us serious and severe obstacles! However, I feel confident that given enough time, we will overcome them, by way of experience, trial and error, and advanced technological Know how!!

SPRINNER

What about the long term physiological impact, on the human body, and organic life in general due to the absence of gravity?

DRAKE

That want be a problem!!! We can simulate gravity on future space cities, by spinning them around!!!

SPRINNER

What about Water, Meat, Vegetables, Salt, Sugar, and so on, where we going to get them from?

DRAKE

We could create in time the conditions to mimic the human habitat in space, however I must say that this particular aspect, must be considered realistically, and that, we must accept that, creatures that have evolved in this Planet of ours, are not really suitable for living in space, and that some genetic alterations will be required!! For example, we know that out there changes in hormones, and in concentrations of salts in the blood take place, together with loss of bones, weakening of the muscles, cardiovascular deficiency, and other Physiological problems. All this could be avoided by Genetically alteration of our physiological makeup.

SPRINNER

What kind of alterations could we possible make, to overcome this serious problem?

DRAKE

I believe that we must remove our digestive system to begin with, for it appears to be our main obstacle!!!

SPRINNER

Why should we give up our digestive system?

DRAKE

By removing our digestive system, we wouldn't have the problem of having to transport large quantities of food! Furthermore we would have no waste to deal with!

Water and nutrients could be delivered artificially!!!

SPRINNER

Are you suggesting that, we should give up Curry, Sweet and sour Pork, and SPAGHETTI???

DRAKE

Eheheheh....I am afraid so!!! We have no choice!!
IF WE DON'T CHANGE, WE WILL DIE!!!

SPRINNER

Ehehehe.... How... could such thing, be possible?

DRAKE

Well, let us view what the human body really is!!!

The function of the upper Anus (THE MOUTH) side from serving speech, is only other function is to Break down food!! With the help of enzymes secreted by the salivary glands, the mouth is in fact the beginning of the digestive system complex!!!

The Stomach main function is to break down food further!! This is archived by the stomach enzymes hydrochloric acids and other chemicals. The small intestine is responsible do most of the digestive process with help from bile material supplied by the Gallbladder. Nutrients are then curried via blood Vessels to the liver to be distributed around the body!!! To cut a long story short, the end product is discharged at the lower anus. The Lungs and the Heart, work side by side, to take care of carbon dioxide and pump oxygenated-blood. The Kidney regulates the amounts of substances within the body, such as Potassium, Calcium, and Hydrogen. Furthermore it removes Waste, and filtrate urine!!!

All of these organs, have relatively simple functions to perform, and in the near future we could replace all their functions, with miniature made devices, that would last indefinitely!!! This miniature systems would be made of some exotic alloy, and would be filled with the relevant substances as required!!

SPRINNER

Would we still need a mouth then?

DRAKE

NO!!!

SPRINNER

How do you propose, we communicate?

DRAKE

In few decades from now, we will have miniature acoustic devises that, can be plugged into the brain and translate electrical signal, into acoustic one!!!

SPRINNER

We are still left with the bone problem!!!! What do you propose we do to take care of that?

DRAKE

The Human skeleton can not survive in deep space environment, and it to would be replaced with special alloys that can last indefinitely!!!

SPRINNER

Dr DRAKE, it as been reported, by all of the Astronauts that have travelled to the moon, that strange burst of light seems to explode inside the eye, effecting the vision. Do you have any ideas, on what may be the cause of that???

Do you know the reason behind this phenomenon?

DRAKE

YES, they are very energetic particles emitted by super novae, which are capable to go through steel concrete, and of course the human eye!

SPRINNER

Are they dangerous to human life???

DRAKE

Unfortunately, long periods exposure to this particles would fry the eye the brain and all cells in our bodies!!!

SPRINNER

What do you propose to do???

DRAKE

AGAIN, IF WE WANT TO SURVIVE, WE MUST ACCEPT THE ALTERATION OF THE HUMAN BODY!!

The human eye will be replaced with a far more elaborated and efficient one, made of special alloys that would last indefinitely. The brain would be replaced with a far more

Elaborated one, made of special alloys, that would last indefinitely. Finally the human flesh will be replaced with highly sophisticated materials. Batteries that would be capable of storing incoming cosmic particles, will be supplied to maintain indefinite energy supply!!!

We would be tailored made to live in space, without having to worry about respiration, radiation's, food, water, waste products etc!!!

SPRINNER

Would that be the end of our quest for survival?

DRAKE

Actually NO!!! The volume occupied by an average human is not ideal!! Miniaturisation would eventually

DRAKE

Need consideration! I would say that few Thousand years from now we could reduce our size to appx 10 CMS!!! Of course you must consider the issues of standing on 2 feet!! It is not advantageous to man in the environment of space! Hence we should get rid of the Legs, and program the overall structure to take different forms, such as a cube, a sphere and so on!!

SPRINNER

What else do you suggest would be required to ensure the survival of these new advanced.....eheheheh...

ZANUSSI ELECTRODOMESTIC PRODUCTS!!!

Close to DRAKE and SPRINNER.

The 2 are look at each other.

Both men are now aware of the facts of life. They are now aware of the irreversibility⁴our own mortality.

TIME From the Album DARK SIDE OF THE MOON by PINK FLOYDS is now playing...

...you are young and life is long..there is time to kill today...

...but then 1 day you find...ten years gone behind you.....

....no one told you when to run.....you missed the starting gun..

.....the Sun is the same in a relative way but you are older..

....shorter of breath.....and one day.....closer to DEATH...