

The Catastrophe



THIS is from the minutes of an international seminar. All the participants were super scientists. It was after a global catastrophe, in which almost half the world population perished. Almost all the communication infrastructure was in a shambles. The year was 3011.

Most major science establishments were in jeopardy, because many top ranking scientists had also perished in the catastrophe. It was believed that it was a terrorist attack from an unknown place in the Sahara desert.

A small group of eminent thinkers were the invitees for the seminar, sponsored by a philanthropic institution. They were leading an almost retired life in remote and thinly populated places and hence survived the attack. They were all transported to the venue in private aircrafts. The venue, an obscure village called Ramana Ville, somewhere in the Indian state of Sikkim. The date was October 31, almost ten months later.

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About 210 persons managed to participate. They included persons who had been active biologists, physiologists, technologists, medical professionals, psychologists, geneticists, space scientists, sociologists, journalists and philosophers among many others.

The inaugural meet was scheduled in the evening. Very few of the attendees knew each other, but no need was felt for formal introductions. The president of the organizing committee, Kalshree, started with an introduction. He began the proceedings with these words:

Friends, we have gathered here to recapitulate, what led to this Catastrophe. Let me try to do it as briefly as I can. Many of us would know some fragments. I will refrain from a long speech. Let each one of us share from her or his memory. I think it will indeed be a memorable seminar. I hand it over to you all.

An old person, almost 100 years old was the first. His name was Charlie Hallen. He said, "I remember it was in 2011. The human population residing in urban areas was suddenly taken by surprise. A change in attitude was easily discernible. Social protests were widespread; almost everyone appeared to be anti-establishment, anti-status quo. Why, no one had a clue!! Sociologists, psychologists were struggling hard to find a clue, a viable theory or hypothesis.

"Not very long ago, a similar thing happened about two decades ago. Many revolutions took place, starting from Egypt, India, Syria, Libya and then to even USA, Germany, Russia and Spain and then on China, Sweden and Norway.

"At first nobody paid much attention, thinking that it was a passing phase. But it persisted, for more than a couple of years. No one could guess why. It was indeed a wake-up call for scientists of all hues, globally. Theories, hypotheses were being put forward almost every week, but nothing appeared attractive.

"It was then that an article appeared, it attracted attention. It was from an obscure scientist from India, but it made sense. He talked of a bacterium in the human body, he talked of extraterrestrial

influences. People were aware of the Human Genome Project and its phenomenal success, and its successor – the Human Microbiome Project. Some believed that it would indeed affect human attitudes, both personal and social.

"I recollect from my personal notes that it was known for many years that *Campylobacter jejuni* is a microbe whose infection increases anxiety-like behavior in mice, later it was established even in case of human beings. It was reported in peer-reviewed science literature that areas of brain-stem activation, such as the *nucleus tractus solitarius* and *lateral parabrachial nucleus*, participate, presumably via the Vagus nerve pathway and ultimately lead to autonomic, neuron-endocrine and behavioral responses. These experiments supported the suggestion that the gut microbiome may be intimately involved in the modulation not only of the peripheral but also aspects of the central nervous system including behavior.

"Many years later it was shown that this bacteria when suddenly exposed to electromagnetic radiation in sub-infrared range of frequencies changes its interaction with several other microbes in the human intestine. For example, when *Campylobacter* family of microbes is exposed to radiation in the range of 30 GHz–1 THz for about a week or more, they show enhanced modification of mutual interaction. It was also reported by some space scientists that Pluto and Uranus emit radiation, which after being relayed through some asteroids in the Kuiper Belt are received on the Earth in that range of frequency. So it is implied that the human body is really subject to these radiations as are the microbes that can enter the human body through different routes.

"This theory appeared viable and had some sound experimental backing. A reputed scientist of Indian origin, Professor Aditya Subramani, received global recognition for this hypothesis. Experiments were conducted worldwide to test the hypothesis and the results were positive."

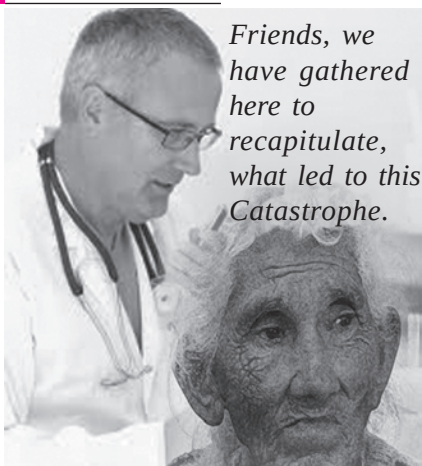
Now a scientist from USA, Professor

Atkinson joined in. He added: "Soon, the markets got flushed with devices, that claimed to be able to produce such radiations and affect human behavior." Many companies flourished, the media was agog with advertisements. It was the year 2072, the human microbiomes were deciphered almost as much as the genomes. Studies of the effects of extraterrestrial radiation on several microbes were the fashion among graduate students."

A sociologist from France, Genevieve Sante, then added: "Science, as we all know, had spread far and wide, not just limited to some prosperous countries. The limit of speed is no longer c , the speed of light. Many more particles that can travel faster than light, in fact as much as $10c$, have been discovered or hypothesized. Science was undergoing a revolution!"

A space scientist, Sumanna Raju, then added: "Some people had started to believe that human body and mind is not controlled by genomes or microbiomes alone much else was hypothesized, for example, influences of extraterrestrial bodies. It was discovered that some extraterrestrial bodies need not be only planets in the solar system. It is now known that many other bodies come close to our solar system, periodically. Astronomical bodies that space scientists had never detected all through the history of science. Bodies that emit particles or waves that could travel much faster, even faster than neutrinos. That could penetrate through the skin and flesh of the human body very easily. It was discovered that they could influence not only a few microbes present in the body, but even the biochemistry of the interaction. How a particular kind of biomolecule can interact with another."

A sociologist from Brazil intervened at this point. He said: "Yes, science had indeed undergone a revolution in the next five decades. It was no longer limited to certain institutes and laboratories, located in a few countries; it spread much thinly across the globe. Any intelligent thinking individual could be recognized as a



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scientist. It was known that there are bodies in the universe that come close to the solar system, after every century."

A Nigerian philosopher, Andrew Osgale, added: "Just in a few decades, scientists from the early twentieth century started appearing like alchemists did to students hundred years ago. Names like Einstein, Heisenberg, Planck were like the names of Plato, Socrates a century ago. The only doctrine that was gaining wide acceptance was the doctrine of change. People started believing that this also was just a doctrine, not an eternal law. Because it was now believed that there could never be any eternal laws, because they are subject to change with time. Not just minor changes but in some cases major changes. One of the changes was to accept the individuality of each one. In the past it was almost assumed that every human being is more like an automobile, with minor differences, that could be accommodated easily. People started wondering, what next? This appeared to be the ultimate human thought. But, it assumed that the status quo would persist. No one knew what would be the next step."

Another philosopher from Spain, Professor Feldman Gonzalez, added: "My grandfather Dr Ruben Feldman Gonzalez, talked often of unitary perception. He used to say that unitary perception is being aware of everything perceptible, at the same time, right now, without naming that which is perceived, without comparing and without effort. It implies being conscious of something. Even while unconscious. Perceptible means we are not aware of something only, but of everything that crosses our field of perception. It implies that if we want the brain to operate as a unit, expressing its maximum potential, it is

necessary to perceive everything perceptible at the same time. His thought really influenced scientific thoughts in decades to come."

A physician from Indonesia, Grerard Macvinta then added: "It was appearing as if there was an epidemic of fast mutations in genes. The genes seemed to be mutating very fast. Persons who had no family history of diseases like cancer, diabetes, suddenly were suddenly suffering from them. Most often these diseases were fatal. It started being evident somewhere around 2011, when it was discovered that many more women had started to develop breast cancer and many more men started having bowel cancer or lung cancer besides asthma attacks and heart attacks."

The geneticist, Regenna Fowls, then added: "It was some mutagen very widely present in the environment. I remember some people had even theorized that it was present in the omnipresent dust in cities. People started thinking that some mutagens were present in the dust particles. Many of us investigated, but the results were never very conclusive."

Ramamurthy from India added very briefly: "The universe passes through various ages as the time passes. I believe, many factors had accumulated over the ages, and the catastrophe was a cumulative effect. We do not know what is in store for us in the near future, but we can only hope for the best, and lead our life in a contented manner."

Irene Tesonova, a computer specialist then added: "But I think a very deadly blow to the world was dealt when suddenly many computer systems stopped working, hundreds at a time. It was a tech virus. Since 2175 the computer memory had become dirt cheap, the memory of the hard disks was most commonly in the range of Gigabytes, this was made possible due to an innovation of little known origin, but it was so attractive that it was lapped up by almost all computer systems, even corporate and banking systems. All information was stored only on such systems. But slowly it was revealed that something was amiss. Before any one could realize, lots of information started disappearing, even of private assets. When it really struck, billions of people were affected, in a matter of a minute. People lost all their property records. It was then that many had fatal heart attacks, with hardly

enough physicians to attend to. Within a day some half a billion persons passed away!"

A journalist jumped in, "I recall that all the deaths in that catastrophe were not only due to computer network meltdown due to a virus attack. It was more due to the nature of material used to manufacture the computer media, hard disks and others. Due to a global economic downturn about a century ago, corporations were in for quick profits, research quality control was dismal. So it was possible to accept disks that were not thoroughly checked. As it turned out all the disks had a lifetime of only twenty years. So there was an expiry date but no body paid attention, because of the market pressures. And as the expiry date approached many disks started collapsing. In the beginning it was a mystery, but by the time the mystery got unveiled, the catastrophe was there. It not only affected the financial institutions, but even many nuclear power stations. Nuclear accidents were very frequent. Mostly because of the greed of the powerful."

At the end, the chairperson, Kalshree concluded with a message: "We all have suffered in the catastrophe, many of our close relatives are no more, the grief is deep and will take several decades to heal. We all have to contribute to the healing process. Perhaps, the best would be to spread the lessons humanity has learned in this catastrophe. We are very few, but we know a bit more and many will listen to us, our responsibility is therefore manifold."

"I think, the lesson we all have learned is that change is imminent, the path it takes is unknown so we have to be humble. It is all a matter of time, as time changes at a certain point, many factors add up to bring about a massive change, that we never expected, a catastrophe. To be proud of any past achievement has its price, often unbearable."

"Greed, although a very human trait, must be banished in the new society that is being raised. We must try to be humble, as wise persons across ages have been saying. Only the humble pass the test when the time for a catastrophe arrives. All of us, present here had been humble, that is why we survived, and we will survive in the future also."

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