

Environmental Concerns from the 1980s

The Environment We Live In

The earth which we live on can be compared to a spaceship containing strictly limited resources being consumed by an ever-increasing human population. World population is now over 4 billion people, and consequently problems of overcrowding, pollution and a disturbed balance of nature are recognised in many areas.

Yet, despite all the danger signs, man continues to meddle with the balance of nature, much of the time oblivious to the consequences of his actions or even if appreciative of some danger, selfishly weighs up whether the danger would be to himself or (less importantly) to people living in other parts of the world. One scheme originating from Russia proposes to put a giant dam across the Bering Straits, separating Russia from Alaska, and then to start pumping out the cold Arctic water. This scheme would cause warmer water to flow in from the Atlantic and result in the melting of the Arctic ice. Several beneficial effects would manifest in that North Canada and North Russia would become capable of supporting grass, and the basins of the rivers Volga and Don would become sub-tropical. But - what other effects could we expect if the Arctic ice was melted? There would inevitably be a rise in sea level, but the Russians could not predict by how much the level would rise - it could be a few inches, but could also be many feet! There is also the possibility that melting the northern ice-cap would cause a similar effect on the southern ice-cap as there is a certain symmetry in global air circulation. If the southern ice-cap also melted then the world sea level would rise several hundred feet. (Even a 20 foot rise would put London and New York and many other centres of population under water.)

The above is an example of what could happen if man tampers with the ice-caps, but already man is able to cause earthquakes by mistake. In December 1967 there was a severe earthquake, registering 6.4 on the Richter Scale - about a 150 kilometres S.E. of Bombay. The earthquake killed some 200 people in the town of Kynanagar and has been conclusively attributed to the filling of the reservoir created by the Koyna Dam. The dam is 103 metres high, and can hold 2,700 million cubic metres of water. By 1964 the dam had been filled with 2,000 million cubic metres of water, weighing 2 billion tons. Before the dam was built, the area had been free from earth tremor.

However, conclusive proof of the disturbance of the earth's crustal forces was available much earlier than this. There had been no shocks in the area around the Boulder Dam in Colorado for 15 years. In 1935, Lake Mead was formed by the dam, and gradually began to fill up. The first shock came in September 1936, and during 1937 more than 100 shocks were felt. The lake now contained 400 feet of water, weighing 21 billion tons. In order to monitor the shocks, seismographs were installed around the lake, and when the lake reached a depth of 475 feet, bringing the weight of the water to 25 billion tons, the shocks reached a maximum. In all, 600 tremors were recorded in 10 years.

Another threat which has built up particularly since the second world war is that of the products of the nuclear age! A 50 gallon sample of sea water taken from anywhere in the world will contain traces of radioactivity. The dumping of radioactive waste occurs more and more frequently.

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The US Atomic Energy Commission mixes the radioactive waste with cement, puts the mixture into steel drums and drops them in the Atlantic; Britain uses a 2 mile pipeline to discharge waste into the sea.

Radioactive materials emit three kinds of radiation known as alpha, beta and gamma rays. Gamma are the most powerful and will go through several inches of lead before being stopped. The rays damage or destroy living cells, and people who handle radioactive substances without protection are liable to develop tumours later on in life.

Radioactive materials remain active in some cases for many thousands of years. They only become inactive when all the radioactive atoms have decayed. Each radioactive substance has a 'half life' during which time half the radioactive atoms will have decayed. For radium then, which has a 'half life' of 1620 years, half the atoms will have decayed after 1620 years, and a further half will have decayed after a further period of 1620 years. The radium thus does not become harmless until many times its 'half life'!

Radioactivity is measured by comparing it to the radioactivity emitted by a single gram of radium. This amount is termed one curie. Before World War II, the stock of radium was about 10 curies - today, we think in terms of megacuries or millions of megacuries. Estimates in the US indicate that, by the year 2,000, almost half the world's electric power requirements will be obtained through nuclear power which will produce vast amounts of nuclear waste to be dumped. In 1971, the radioactive waste which had to be reprocessed was 300 tons. If the most efficient nuclear process is pursued, then it is estimated that, by the year 2,000, the 300 tons will have risen to 2,100 tons, and the accumulated liquid waste will be 60 million gallons.

Five radioactive materials can be absorbed into the body structure which is unable to distinguish them from the non-radioactive forms of the same atoms. They stay in the body until they explode.

1. Iodine 131 accumulates in the thyroid gland and eventually causes cancer of the thyroid. The half life is short at 14 days.
2. Iodine 129 also concentrates in the thyroid. It has a half life of 17,250,000 years.
3. Strontium 90 is mistaken by the body for calcium, and is built into the bone structure. When it explodes, it forms Yttrium 90 which lodges in the ovaries or testes causing damage or mutations in eggs and sperm. The half life is 28 years.
4. Carbon 14 can be built into any living tissue. If it gets built into the genetic material of an embryo it may cause mutation affecting all future generations. The half life is 6,000 years.
5. Cesium 137 concentrates on soft tissues rather than bones, and has a half life of 33 years.

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Australian Aboriginal blacks say that some of their people are still suffering genetic problems and bearing deformed children as a result of Australian and British atomic tests in the 1950's. It appears that the Australian authorities forgot to evacuate the Aborigines from the desert where the blasts occurred.

There is no known 'safe' level of radiation and its effects do not disappear over days, months or even perhaps many **thousands** of years.

We have examined some of the threats to mankind, but there are many more which can be described: we are not living in a dream world and these threats are real.

Only when the power of spirituality is harnessed will we be able to find the security and purpose to face the dangers of living in a world in which greed and cruelty are never very far away.

Recognise the ultimate importance of Ishvara's message, because that message is our brightest and only hope.

With love

Adara Rahmanand

Bibliography: 'The Doomsday Book' Gordon Rathray Taylor