

THE 34TH SESSION OF THE INTERNATIONAL SEMINARS ON PLANETARY EMERGENCIES AND ASSOCIATED MEETINGS

ANTONINO ZICHICHI

Dear Colleagues, Ladies and Gentlemen,

Welcome to Erice for the 34th Session of the International Seminars on Nuclear War and Planetary Emergencies.

Let me remind you why we are here. As you know, and as many of you have known for a couple of decades, we are here because of the existence of the Planetary Emergencies, which were divided into 15 classes in 1983.

Before starting my review, let me remind you that we have received encouragement and support from the President of the Italian Republic, Professor Carlo Azeglio Ciampi; from the President of the Senate, Professor Marcello Pera; from the Prime-Minister of Italy, Dr. Silvio Berlusconi; from the President of Sicily, Dr. Salvatore Cuffaro; and we have received a message from the Minister of Foreign Affairs, the Hon. Gianfranco Fini, who supports our work and follows it with attention. So we have strong support from the Government in Italy.

I would like to show you the message from the Minister of Foreign Affairs, who is also Vice-President of the Council:

“Greetings from the Hon. Gianfranco Fini, Vice President of the Council and Minister of Foreign Affairs, on the occasion of the International Seminars on Planetary Emergencies

First of all, I would like to convey my heartfelt thanks to Professor Antonino Zichichi and the Presiding Council of the World Federation of Scientists for their kind invitation to participate in the International Seminars on the Planetary Emergencies, which, unfortunately, I am unable to attend. I would like to take this occasion to express my deep appreciation to all those who have contributed to organizing these seminars, which are once again hosted this year in the inspirational setting of Erice. The most eloquent testimony to their success is that this is the 34th Session of a continuing series.

The Erice Seminars have once more placed the priority on questions of interest to the International Community as central to their efforts. These problems require solutions that are both urgent and effective. The emergencies are justly categorized as planetary and their resolution, for which the involvement of the scientific community is indispensable, can only be realized in a global context.

I am certain that the discussions over the next few days will make invaluable contributions to a better understanding of these vital questions.

It is a great pleasure for me to present my sincere wishes for a fruitful and successful seminar to all those participating in these efforts.

Vice President of the Council
Minister of Foreign Affairs
Gianfranco Fini ”

We thank the Hon. Gianfranco Fini for this kind message.

Before going on, I would like to give the floor to the Mayor of Erice, Dr. Ignazio Sanges:

DR. IGNAZIO SANGES

(free translation from the Italian speech)

I am honored to take part today in this event and bring you cordial salutations in my name and of all the representatives of the communal administration of the City of Erice and its citizens to all those present today at the 34th Session of the International Seminars.

Western Sicily and, in particular the Province of Trapani, are still the representatives of an antique civilization, a land of stories and legends, of faith and folklore. Here, everything refers to the past and points to the future. Keeping alive, however, all the past traditions the Elims, Phoenicians, Greeks, Romans, Arabians and Normans that contributed to our creation. Erice, since its historical beginnings, has been a synonym and symbol of classical mythology that found here the ideal spot in this world, in which it played a preponderant part.

By its location at the center of the Mare Nostrum, Erice became a meeting place between science and culture, a hub of economical, cultural and scientific exchange, thanks to the “Ettore Majorana” Centre, magnificently led by Professor Antonino Zichichi, where scientists from the world over meet to

analyse the most important problems of the universe and find solutions to the Planetary Emergencies.

The energy crisis followed by the rising cost of fossil fuels, the search for alternative forms of energy, the possible return to nuclear power generation — you are all gathered here to debate these themes with the knowledge that the world expects you to come up with new solutions that will ensure the well-being of the future generations.

I wish you all success in these endeavors.

ANTONINO ZICHICHI

Before the Mayor leaves us, I would like to call your attention to the fact that he has been able to implement something that we have been talking about for many years, namely a fast connection between Erice and Trapani. In the past, our fellows complained that it was difficult to go to Trapani because the bus was either unavailable or ran only every two hours. Now the cable car leaves every few minutes, and this is thanks to Dr. Sanges. So thank you very much Dr. Sanges!

This goes to prove that, where there is political will, problems can be solved.

Now let me return to our topic: Planetary Emergencies. As I was telling you we are here because there are 63 Planetary Emergencies, divided into 15 classes, and I would like to remind you of our work over the past decades in classifying and, in some cases, in implementing projects to solve these Emergencies.

There is the Water problem, which is now the center of attention of governments the world over.

What we call Emergency Number 2, namely Desertification, is also at the heart of European governments, in particular for the south of Europe, where this problem is really not understood. In this field we emphasize the value of studies whose conclusions can be understood and justified, because it costs billions of dollars to implement projects in this field. And you cannot make mistakes. There is, for example, a tendency to implement solutions that are very expensive but far from being scientifically justified.

Food is a classical emergency in which production, processing, storage and waste are the center of fundamental studies in the field. There are many actions being taken to solve this problem.

Number 4 is Energy and this year, in our sessions, we have focused attention on the Energy Crisis. In 1986, in this same hall, it was emphasized that the Energy Crisis was a very serious topic and that, by the year 2020, oil would have

reached \$80. This estimate was severely criticized by a lot of people. But now we are very popular because people remember what was said in Erice in 1986. And the price of oil has risen even earlier than expected. At that time, we wanted to emphasize that Italy should not scrap nuclear power energy, but we could not win this battle that was based on what Enrico Fermi would have called "cultural Hiroshima". Namely, that people talk about things that have no scientific or technological basis. In any case, energy is indeed a big problem nowadays, and sooner or later Italy will have to return to nuclear power stations.

Of course, there is also the big problem of fission versus fusion. Fusion remains in the future. When I was young it was said that in 50 years we would have fusion. The 50 years are over and the same story is being repeated: in 50 years we will have fusion! We strongly support the fusion channel and it would be very interesting indeed if this could be implemented.

Pollution is a Planetary Emergency that should be divided into global and local. At the local level, laws are enounced to solve problems. On the global level, international collaboration is needed. And, as you know, the greenhouse effect has been under very severe attack, but fortunately the greenhouse effect exists otherwise the 33°C that we enjoy, from -18°C to +15°C could not exist. So the Erice Centre has again played an important role in clarifying this problem because the key point here is how much is human and how much is nature in this much-discussed global effect? Here again this year we have some very important sessions on the projection of this to the climate components.

Limits of Development is another very important topic. We have been involved in implementing many projects on this subject. Here again, the cultural component is of great relevance. As I was saying a few seconds ago, climatic changes are scientific problems which should form the basis of discussions, but they are often forgotten. So we are devoting special attention this year to this topic and, as usual, we have invited people contributing to the field and we very much hope that we will work out a clear message from Erice stating that climatic changes need a scientific basis as the centre of discussion, to establish how much is anthropogenic and how much is natural.

Global monitoring of the planet was very popular in the '80s, but again, the defence against cosmic objects becomes of interest for reasons that we know very well. Now, in this global monitoring, the atmospheric and pollution monitoring is indeed of great relevance. And the defence against floods and extreme meteorological events are of remarkable interest.

Now in view of the new military trends in the multi-power world, I would like to remind you that this is of great concern these days. The cultural motivations of Terrorism should be understood. We cannot do anything in this

field but contribute to the understanding of the real roots of this phenomenon, which is currently the center of everybody's attention.

The danger of proliferation of weapons of mass destruction is another very hot topic. In this sense the global defence system has lost the priority. Nevertheless, it is a problem that needs to be considered. And this is a very important point of science and technology for developing countries in order to avoid a north-south environmental holocaust. Here we have been strongly engaged. We are the only organization that has contributed with the implementation of projects worldwide to this very essential component of the Planetary Emergencies. Science and Technology are the link between the developed world and the developing world. There will be war if nothing is done. What we have done is the proof that the scientific community has contributed as much as they could in the implementation of these projects. But this phase of the project is finished. We have proved that indeed this is a way to establish strong links with developing countries. But the next step needs very strong international governmental agreements, with billions of dollars involved.

Another very hot problem, which has been discussed in other sessions here in Erice, is organ replacement. Natural organs were supposed to begin a new trend in medical care. But artificial organs are the real solution because, at present, there are terrible consequences with the natural variety. However, the artificial organ solution has not been correctly taken into account by governments worldwide. The Italian government today is very engaged in this, but Italy is only one country in Europe. Again, the cultural component is very important here.

Class number 12 of the 63 Planetary Emergencies is Infectious Diseases. You know how much is going on at present in all the pathologies. In just the last few days the media has emphasized the latest virus H5N1. Another example of "cultural Hiroshima" that has been occurring because, instead of emphasizing that it is the first time a pandemic is understood with all its consequences and that it can be overcome with strong political will, the media terrorises people. It is not true that nothing can be done. The 1918 the pandemic was a mystery, no one knew what was going on. Here we know in advance what is happening, that there are two classes of reactions, and what we can do here is to indicate in this field what technologies should be implemented to avoid catastrophic consequences.

Now we go to Class 50 of the 63 Planetary Emergencies. In Cultural Pollution, we had a great success this year, which has been obtained in the most populated corner of the world with 1.3 billion people and thanks to the director of the Beijing Institute of the World Laboratory, Professor T.D. Lee.

In Italy I have been engaged in trying to contribute to fight the “cultural Hiroshima”. People tend to believe anything, no matter what you say. This is very serious because civilized society cannot have a basis in ignorance but only in scientific culture. So I have written a book called “The True and the False” in which there are 33 appendices on Mathematics to show that what astrology and all that nonsense says is without any scientific basis. My editor wanted to convince me to take out the 33 appendices. He said, “Look, I will lose an enormous amount of money if you keep these in. No one is going to buy this book.” Well, the book was a great success! And I sent this to Professor T.D. Lee who translated it into Chinese. Of course, he knew the basic points very well, and he obtained from the Chinese government a law which forbids this nonsense, because it endangers the intellectual health of mankind. It is a great success for the World Federation of Scientists to have obtained such a law from a government, and a very important government of the planet. So this is an example of what you should do in your countries. If you engage yourself in convincing your government, it could be that you get results. Perhaps you will not, but at least you should try. I would like to take this occasion to thank Professor T.D. Lee for his success in this field. This is an introduction. We will hear about this in a few minutes.

Number 14 is the Common Defence against Cosmic Objects. We have discussed this here on several occasions in special seminars and this is the standard way we proceed: when there is something very important, we implement special sessions of the various seminars devoted to this field. Last year we had a series of sessions, but this year we have very little. And here we go to the very large military investment which emphasizes the importance of this action from the point of view of the scientific community. For example, this mountain of 60,000 nuclear warheads. I was Chairman of the NATO panel for this and there are problems that are still not solved. The present situation is very critical indeed.

So let me now show you the summary of the 15 classes:

- Water,
- Soil,
- Food,
- Energy,
- Pollution,
- Limits of Development,
- Climatic Changes, Global Monitoring of the Plant,
- New Military Challenges in a Multi-polar World,
- Science and Technology for the Developing Countries,

- The Problem of Natural versus Artificial Organs,
- Infectious Diseases,
- Cultural Pollution with the great success of Professor Lee in China,
- Common Defence against Cosmic Objects, and
- The Huge Military Investment.

Why am I showing you all this? Because we have to build up an Interdisciplinary Group. We do not want people coming here, giving their report, staying to listen to the discussions and then disappearing. This is not what we want. We want to build up a Group and I am very pleased to tell you that this is working quite well and the Group is increasing constantly. But we want to build up a Group which is not only interested in its own problems, each one of us has his own problems otherwise he would not be a scientist, he would be a man who speaks about science. We don't want this. What we want to build up is an Interdisciplinary Group of people who are interested in seeing the projections of the various components of our problems in his field and also in knowing what is going on in the other fields. This group is growing and is getting attention in some countries, in particular in Italy and in China. It is not just the result of a probabilistic computing model. We find that Italy has indeed put it in the priorities of its Foreign Policy relations with China. Italy strongly supports China. As you know, China is developing and this has created problems in Europe. How can you oppose a country that is developing? We should help. We should see how this can also help us. But the motivation of this must be scientific, technological and the root of this is culture. And we are this cultural component. So I invite you to spend some of your time, not only in what you are doing, but also in following what is going on in the other fields. This will strengthen the Interdisciplinary Group for the future. It is not only Italy; Europe and the world need this kind of structure. We need a group of truly interdisciplinary fellows who know what they are talking about in other fields, but who are also very active in their own fields. It is not enough to be interested in a single field, you must be: 1) active in your own field, and 2) you must be interested in the other fields. This is what we want to build up. So I thank all of you for coming here because this is the hard core of the interdisciplinary group.

Now I would like to give the floor to Professor T.D. Lee who is going to report on the very important success of the World Federation of Scientists in China.