Report

London International Youth Science Forum 1998 22nd July - 5th August

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I had heard all about the London International Youth Science Forum and the great two weeks in London from past participants, but secretly thought that they were making a big fuss about it all.....until I went there myself!

I enjoyed every bit of the Science Forum - the lectures, the scientific visits, excursions, visits to museums, the student topics and last but definitely not least, the parties and the International Cabaret. What fascinated me most, however, about the LIYSF was meeting people from over sixty different countries - it's amazing how people from different cultures, from all around the world have common aspirations and goals in mind.

I shall give a brief account of my stay in London between the 22nd July and the 5th August. At the start, the Maltese participants hardly knew each other. I myself only knew two people well - Elaine Cachia who is also studying Medicine, and John Paul Tabone. However, by the end of the visit in London I got to know all the Maltese participants really well, and in fact we all make it a point to keep in contact. Actually, I must say that we Maltese had a great time wherever we went, which earned us the reputation of knowing how to have a good time!!

On the day following our arrival, the opening ceremony was held at the Institute of Electrical Engineers on the Embankment where all the general lectures were held. The opening ceremony consisted of a representative of every country carrying his country's flag, a welcome speech by George Mc Gowan, president of the LIYSF, introductory speeches by past participants of the Science Forum and introduction of all the staff members. Following this ceremony, we had our first general lecture.

I found all the lectures very interesting. Our first lecture was on Egyptian Mummies - delivered by Dr Ron Snaith. Various studies have been carried out on mummies using different techniques such as X-rays, microscopy, rehydration and chemical analysis amongst others. The average lifetime of these mummies was found to be approx. 36 years - science has definitely come a long way since then ! What really impressed me was the long and complex procedure involved in the actual mummification process - removal of brain, cutting out of entrails, treatment of viscera, dehydration of the body, stuffing anointment, treatment with resin and finally wrapping of the body.

Another extremely well-delivered lecture was that by Dr George Savage - "Living Control Systems". He tackled the topic of homeostasis - the maintenance of a constant environment in all physiological systems. The use of the extensive apparatus that the lecturer brought with him made it all the more interesting and stimulating.

Forensic medicine has always been one of my favourite branches of Science, so I found the lecture "Hello, Who Have we Here?" very interesting. Dr David Lowe showed us some slides and asked us to decide on the gender of the bodies. This was not at all that simple to do since we were only shown parts of the body. After this, the discussion was brought to a close with the showing of a number of slides on certain genetic disorders, where one cannot identify the sex of a person simply on the basis of external features - nowadays DNA - fingerprinting makes the identification of gender very simple of course.

"The Utilisation of Solar Energy" delivered by Dr Mary Archer proved to be another engaging lecture. The lecturer focused on the use of photovoltaic cells (which are able to transform light energy into electricity) and of other new technologies such as evacuated tube collection, explaining the underlying physics and chemistry. Everybody found this lecture to be very interesting since solar energy is playing a very important role in this day and age when fuel is becoming more and more scarce.

Cancer was the topic for two of the lectures - two contrasting aspects of cancer, however, were tackled. One lecture "Immunological Approaches to Cancer Diagnosis & Therapy" delivered by Professor Richard O'Kennedy. He spoke about recent advances in research on cancer, that is, studies on the role the immune system plays in the detection, development and elimination of tumour cells. He explained how scientists have now managed to manipulate the immune response so that antibodies can be produced, labelled with drugs, toxins, or pharmaceuticals and targeted to tumours.

One of the lectures focused on an ethical and philosophical issue - Euthanasia. The lecture: "To die or not to die?" was delivered by two speakers - Dr Frances Calman and Dr John Ellershaw. At the beginning of this lecture there was a role play where a terminally ill patient was asking the doctor to relieve her from her suffering by giving her an injection that would kill her. After this role play, we were asked who was in favour of euthanasia and who was against it. We were shown a couple of slides and extracts of some TV programmes and we were split up into groups of six. Every group had two case studies to discuss and after this, towards the end of the lecture we were once again

asked the question we had been previously asked. Surprisingly enough, the outcome this time was different.

The two lectures that I enjoyed most, however, were "Musical Squares", delivered by Dr Mike Gluyas and "Chemistry and Light", delivered by Professor Andrew Mills. The lecture on Musical Squares was packed with sound and visual illustrations. The lecture explored many exciting aspects of sound and it examined the vital role it plays in our lives - from communication and the production of enjoyment of music, to its medical and industrial uses. Using special apparatus we even managed to hear sounds coming from the inside of the body. On the other hand, the chemistry lecture was packed with experiments and colourful explosions. The lecture consisted of a series of illuminations to show how light may be generated electrically, thermally and chemically.

Apart from the general lectures which all participants attended, there were also a number of specialist lectures which groups of around thirty people attended. I attended two of these specialist lectures - one was called: "Ecstasy or Agony? Effects of the Psychoactive Drug MDMA". This was an extremely interesting lecture and Dr Marcus Rattray delivered well and objectively. The last specialist lecture I attended dealt with biochemistry - "Watching Proteins at Work: A Look at Molecular Machines in Biology". In this lecture was explained how motions of proteins are fundamental to a wide variety of processes such as the activity and control of enzymes.

There were also some very interesting seminars. I attended the seminar entitled "Space Astronomy" which consisted of an account of the most recent and exciting astronomical discoveries, and of some violent and exotic objects in the universe. Another seminar dealt with something more practical - "The Pleasures and Pains of Postgraduate Study".

There was much more to the Science Forum than lectures, however. We had the opportunity of visiting many scientific institutions, museums and universities both in and outside London.

On Friday, 24th July, we had a half-day scientific visit organized and I had the opportunity of going to the Department of Biophysics at King's College London. There we had a brief demonstration on X-Ray Crystallography, where were shown all the apparatus involved. The person who showed us round had been working on the same crystal for about two years in collaboration with a pharmaceutical company - Smithline & Beecham. Following this demonstration, we were given a brief talk on cell motility and the structure of eukaryotic genome in relation to expression of genetic material.

Then there was the full day scientific visit - to me, this was the highlight of the Science Forum. I was chosen to go to the Unilever Research Centre in Port Sunlight village in Merseyside. This is a very large research centre producing a wide range of products, e.g., hair products, soaps, detergents, toothpastes, perfumes, chocolates and even ice-creams. There we visited a toothpaste factory, tasted chocolate and designed our own molecules on computers. We visited a lab where we saw gas chromatography of perfumes, and also an exhibition of hair and hair-care products. At the end of the day we went round Porsunlight village which was originally built for the workers of the Unilever Research Centre.

Two days after the visit to Unilever, we spent a day in Cambridge. The first part of the morning was spent at the Department of Physiology at the University of Cambridge . There we had a demonstration on ECG which we could even try the ECG on ourselves! We then had the whole afternoon to ourselves so some of us decided to hire a bicycle (in Cambridge everyone goes round on bicycles) and tour the town.

Another highlight of the Science Forum was our visit to the Welcome Centre for Medical Science. This centre featured extensive use of the latest interactive technology. One exciting thing there is that you can walk through a cell magnified a million times!

The social programme at the Science Forum was well-organized - we had a choice of excursions on Sundays. I chose to go to Stonehenge and Salisbury but I must admit that Stonehenge was quite a disappointment! When compared to Maltese temples, the temples at Stonehenge are nothing special, but that is just my opinion. I enjoyed myself at Salisbury, however. We could also buy theatre tickets from the Science Forum organizers at a relatively cheap rate so I made the most of it and watched "Grease" and "Miss Saigon' managing to arrive late to both shows!!

Other activities organized by the Science Forum staff were the Rounders Match and the Inter Hall Swimming Gala. Unfortunately, College Hall, my team, lost every time. What I really enjoyed was The Great Train Race. This was a competition where we had to split up into groups of four and handed a list of questions to answer. This involved going to various places in London to find out some information, e.g., what are the opening and closing times at Harrods? My team did not fare too badly - we were placed amongst the first five - not bad at all!

Then there were the parties held on board TS 'Queen Mary'. At the Welcome Party we were all still trying to get to know each other and everyone was extremely enthusiastic about the Science Forum. We also had a good time at the Farewell Party but this time we were all rather sad at the thought of leaving the next day.

Science Forum is an amazing experience - the lectures, scientific visits, excursions, parties etc., all contributed to making this forum worthwhile. Sharing the same experiences and living together with three hundred people from sixty different countries around the world is a unique opportunity. I doubt I shall ever have a similar experience in my life. I learnt many things at Science Forum - learnt about the enormity of science and the unlimited capabilities man has in this field; I learnt about

various cultures and ways of thinking through those late night conversations on the lawn outside College Hall with so many people of different cultures. I am sure that the experience of the Science Forum will live with me for the rest of my life.

I would like to thank all the people who have made it possible for me to have such a wonderful experience:

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* Ms Rosette Fenech for her dedication and patience
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