

Preface II

This project links the beauty of living cells and tissues with their essential role in life on our planet. Oron Catts and Ionat Zurr have used tissue culture and tissue engineering techniques to express their talent and innovative minds. Their approach was based on the growth of living matter (cells, tissues) onto the surface of artificial materials. Such, the two artists entered the field of biomaterials, probably not fully aware, but with great enthusiasm.

A few words about biomaterials. In a simple definition, any material brought into contact with the fluids, cells and tissues of the living body is a biomaterial. In our department, we produce and study biomaterials for implantation into the eye. We create our materials of choice, which are synthetic polymers (better known as 'plastics'). Their properties can be modulated to suit the functional requirements in the eye, for instance, we can make transparent, soft plastics, able to absorb and retain biological fluids. The aim of our work is to produce replacements for those ocular elements which, by becoming diseased or damaged, can lead to blindness. Over the years, we developed biomaterials as artificial substitutes for dysfunctional intraocular lens, vitreous humour, or cornea. This year, the artificial cornea conceived and made by our scientists has been implanted in a human patient who presently can see again through the operated eye, after seven years of blindness. This achievement would not have been possible without a deep knowledge of the interaction between cells or tissues and the artificial materials. While in some situations the coverage of material with living matter is to be avoided, in other circumstances this process is mandatory.

When Oron approached me in 1997, he was obviously interested only in those biomaterials which encourage the growth onto their surface of living cells and tissues. Based on some previous experience with glass as a substrate, Oron and Ionat began to work with polymers. I had the opportunity to see first-hand their dedication and I was impressed by their efforts to become familiar with a rather difficult field of science and by their success in understanding the intricacies of tissue culture techniques. In a short time, they were able to perform the

experiments with minimum supervision, and to become competent on topics such as polymer surfaces, cellular growth, staining procedures, microscopy. Most important, they created in the process a new art form, although (I have to confess (the scientists around them, including myself, perhaps did not fully realized it.

It is now that I realize how important are the benefits of this work to us, the biomedical scientists. Oron and Ionat transformed the results of a research activity into an aesthetic accomplishment of true novelty, which (I hope (creates a positive image for us to the general public. Indeed, this exhibition is aimed to the wide community which is still suspicious of the routine deeds of scientists. I assure everybody that no toxic chemical was used, and no animal was sacrificed for the purpose of obtaining the results presented now.

Currently there is a great effort in a few advanced countries to provide to the public a realistic image of scientists. A similar exhibition was recently set up in Nottingham, UK, but the concept was different, as it tried to show the molecules and their importance in everyday life, and to improve the image of chemicals and chemists. The project was supported by four institutions, and the scientist who developed it received the Science Communicator of the Year Award (1996). Similar events are frequently organized in the USA, mainly for the "rehabilitation" of chemists in the public eye.

Clearly, it is the time for us to do the same in our country. The performance of Oron and Ionat could not have come at a better moment. As for us, the scientists, to see our reserach transposed into art gives a pleasant feeling and makes us proud.

Traian V. Chirila, PhD

Assoc. Professor Centre for Ophthalmology & Visual Science

University of Western Australia