

A MARINE SCIENCE ODYSSEY INTO THE 21st CENTURY

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FOREWORD

Summer programmes are today a normal university activity, particularly in southern Europe. After an academic year, stressful to both faculty and students, the summer programmes, held in clement climates, in remote places, and in a more leisurely academic pace, are free from the strict intellectual confines imposed by classrooms and curricula and are more conducive to freedom of expression and speech. Thus, setting and human inputs combine to make summer courses ideal for the free-flowing, genuinely unimpeded exchange of ideas and concepts between generations. The Universitat Internacional de Menorca Illa del Rey [UIMIR] (Menorca Illa del Rey International University) programme stands out as special among the events held in university settings in the Mediterranean area in summertime. It brings together the faculties of three universities of Catalan speech, the Universitat de Barcelona [University of Barcelona], the Universitat de les Illes Balears [University of the Balearic Islands], and the Universitat de Castelló [University of Castelló], providing them a forum to discuss mutual concerns and ideas. The UIMIR thus offers an ideal setting for the practice of fast-paced, open scientific exchange, which plays an ever more important role in our culture. Faculty members from a broad range of public and private academic institutions and research institutes attend it without constraints or restrictions.

The idea for this year's meeting came into being at the summer courses held in 1997. For a week Dr. Ramón Margalef from the University of Barcelona was the great professor we have all yearned for. The courses were an opportunity for deft and seemingly effortless transmission of his teachings between the youngest and the most veteran participants. A few of us were privileged to enjoy that week at our leisure, revelling in Dr. Margalef's boundless amiability in communicating his ideas and in the shared daily experience of living and working together in such a special setting. There was a wonderful feeling of being free to listen, assimilate, and express oneself. Dr. Margalef's lectures took us back to the basics of what science should be, a branch of human endeavour that truly helps us to understand our own natures and surroundings. Feelings of freedom and objective thought pervaded that week, and we have been working for two years now in the hopes of rekindling a similar experience for a week in September 2001.

In the summer of 1987 a group of us organized the European Marine Biology Symposium (EMBS) in Barcelona. We still hold fond memories of that event, and we thought that if we were going to make the renewed effort of organizing it again, it was only fitting to do so in exceptional circumstances. We have now been able to find the proper setting, to arrange a singular event at summer's end in Europe, at a truly congenial venue committed to the ideals of freedom and enthusiastically receptive to scientific endeavour. Still, we should not overlook the reality of science today. This modest contribution of ours, intended to make the dissemination of knowledge more humane and objective, requires us to stop and come to the realization that there is much to be done. For instance, meetings like the one we are organizing here are frequently undertaken with good intentions yet even so often become so commercial or top-heavy with bureaucracy that we do not rightly know if we attend them out of routine or because we truly aspire to learn new things. Large meetings are indeed a place for colleagues and specialists to come together, but wouldn't workshops be more appropriate for such encounters? Meetings are a reflection of the path science has taken in recent decades. There is today a huge rift between those interested in applied science and those interested in basic science. Applied science is heavily supported by the public administrations and by private enterprise, primarily interested in funding work likely to yield short-term profits. This short-sighted state of affairs overlooks a basic fact, namely, that the greatest scientific advances for the human race have been grounded in contributions made by basic theoretical science and which only later have found applied outlets or have been able to set the stage for additional research that has yielded commercial products or contributed to the general welfare. We are not so much concerned here with the need to promote both these areas of

research as we are with the conditioning factors that cause one to garner much more support than the other. Opening science up to commercial interests is curtailing the freedom to do research. Yet that very freedom is essential to allow the formation of new ideas, and there is an element of risk inherent in daring to undertake something new. Large scientific meetings, with a multiplicity of sessions all running simultaneously and short presentations, serving as a platform where a wide range of bodies and companies can peddle their wares, are a reflection of the red tape that is gaining ground today.

It is not only meetings but also scientific journals, committees of experts, and the like actively contributing to science that have lost some of the striving inquisitiveness and imagination of years past, when discoveries and theories were accepted and debated for what they were, not as a return on competition, a competition that has overtaken all aspects of our economic and commercial system. We scientists have grown used to meeting to discuss what we can do or what others should do. In a society of rapid communication where e-mails bring instant contact, we spend days and weeks in travel for purposes of discussion. Does the cost of such discussion sessions really inure to the benefit of research? Would it not be better to invest in research projects that would be to everyone's benefit, not just to that of the most powerful countries? We too live at the frantic pace and suffer the stress of today's society. Researchers are subject to unending and permanent re-evaluation, and to stay in place we have to publish whatever we can, wherever we can. The journals take full advantage of this, and publishers profit from our work by making us pay exorbitant prices to publish our findings. An outcome of this frenzied need to publish, to mention just one aspect, is that there is now little time available in which to read the literature. Many researchers new to the scene barely read papers published five years before their own work. This intolerable ignorance of scientific culture greatly diminishes the prospects for successful research, and in many cases we are reinventing what was already invented earlier or we are rephrasing in new wording what others before us have already written. Yet improving the situation is an extremely complicated task. Perhaps through modest efforts such as those of the present meeting the new generations will be able to change the present system for doing science to calm the pace while at the same time making it more creative and exciting. Does a science weighed down with bureaucrats and administrative oversight and subordinate to excessive interest in commercial applications really have a bright future? Frankly, we think not, and in fact all that is left to us is to try to stake out a small territory of our own in which we can endeavour to continue to create in freedom without any pressures other than those strictly intrinsic to our profession.

The intent of this book you are holding in your hands is to try to help you take the experiences shared during our time together in Menorca with you on your trip back home. We also hope that the message of our meeting will not quickly recede into forgetfulness, or at least that you will have a few moments in your busy daily schedules to recall that experience is one of the cornerstones of science and that the ideas put forward by "elder" generations may be of much more help to us than we have hitherto suspected. Perhaps now is the right time to remember a sentence by an older professor close to our hearts, who has said that "the best idea to work on in this new century that is just beginning may be one that is to be found in a book written at the start of the last century". With all due respect to the huge technical advances that have been made in recent years and their vast contribution to scientific progress, we think that there is much truth in what he says. And because our message is one of freedom of ideas and of action, we do not want to dwell on our ideas other than to allow them free rein.

THE EDITORS