

INTRODUCTORY REMARKS

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We present herewith another volume of the *Proceedings of the »Ruđer Bošković« Institute's International Summer Conference on the Chemistry of Solid/Liquid Interfaces*, incorporating the *Symposia on The Electrochemistry of the Double Layer: Status of Theory and its Application*, and on the *Interfacial Phenomena in Biomineralization*. It follows the practice started in 1969¹, that the invited lectures are presented in extenso, but that also some authors of the contributed posters would decide to publish here, and their papers are included. As it has been the traditional format of these Conferences, the general aspects of interfacial science were in the main body of lectures presented by invited lecturers. Accompanying the main structure of the Conference there were usually some specialized symposia, reflecting the active interests of research scientists in the laboratories of the Institute, thus enabling them to participate in both giving and obtaining information; another reason for this specialized topics was the feeling that some developments in particular fields of interfacial science would merit inclusion into research programmes in the near future. Not surprisingly the themes chosen were strongly influenced by the recent Pimentel Report *Opportunities in Chemistry*² which appeared in the edition of the *National Academy of Sciences*, USA in late 1985. Surface science has obtained a prominent place, particularly in catalysis, in studies of the kinetics of new chemical processes, and in energy conversion. The advent of complex surface spectroscopic instrumentation has changed the subject matter and the approach to many problems of classical colloid and surface chemistry. Reflections of this new trend have not only been perceptible, they have rather started to dominate the proceedings of this Conference.

The electrochemical double layer continues to engage many researchers and indeed some of the most excellent ones. The oxide/aqueous electrolyte interface continues to draw attention both because it is a uniquely suitable experimental model, and due to its overwhelming importance in chemical and electrochemical catalysis, corrosion of materials, energy conversion devices, and finally in geochemistry and environmental pollution research. It is a topic which has recurrently been treated in all Conferences³. The theory and research on the double layer has been boosted recently by the incorporation of non-equilibrium concepts. The non-equilibrium, or better to say the perturbed state, is difficult to deal with in the frame of the DLVO theory of stability of liophobic colloids. Approaches are needed to understand dyna-

mic phenomena, such as flotation or the behavior of living cells in suspensions. The non-equilibrium forces are generated by *e.g.* external electric fields, by movement of bubbles and droplets, by diffusion controlled adsorption and by a variety of convectional transport processes. Needless to say that interest in such phenomena is closely related to the problem of stability of mineral particles in the sea, an overwhelmingly important aspect in the cycling of matter between land and natural waters in general. There have been other aspects of double layer phenomena raised of which one is the interaction of light and colloidal particles or electrodes. Several last minute cancellations by three invited lecturers have certainly narrowed the field of expertise. However, questions have been asked, even if many answers were not given; some of these are still missing in the integral body of interfacial science.

This Proceedings volume contains in extenso contributions by our invited lecturers (in alphabetical order) R. Adžić, S. S. Dukhin, G. J. Fleer, J. Lyklema, E. Matijević, I. Ružić, H. Sonntag, W. Stumm, S. Svetina and S. Trassatti. Others, whose contributions have left a strong mark on the Proceedings, have decided to publish elsewhere or not at present. Let us mention Mary D. Archer, M. Kerker, J. Kratochvil and F. J. Micale. In the contributed papers group it is with delight to note the contributions of G. Caple, N. Kallay, Z. Kolar and S. W. F. M. van der Westerlo.

The biological aspects of surface chemistry and crystal growth are represented by papers of J. D. Andrade, A. E. Nielsen, and Sara Sarig. While covering a very large field of expertise, these papers go into many aspects of interfacial science and particularly deal with the adsorption of ions, molecular, species and polymers at surfaces. They are supported by abstracts included into this volume on contributions by L. C. Chow, Helga Füredi-Milhofer, and N. Ise. Missing is a record of a highly informative lecture on the methodology and techniques of using magnetic resonance in studying surfaces of polymers by Zorica Vekšli, also published elsewhere. Even with this fragmentary record of the lectures delivered at the Conference one can still obtain the picture of the large scope of discussions.

Science is part of the civilization and one of the pillarstones of culture. Visits to the Roman Arena in Pula, the early roman Basilica in Poreč, and the 14th century fresco paintings in churches of the inner part of the Istrian peninsula were a welcome respite in the middle of the Conference.

The anecdotal dimension of the fate of the Conference, with respect to its location, merits a notion. The Conference was planned to be held some 20 km south of the Red Island, in the famous Islands of Brioni, precisely at the Island of Veliki Brijun. This was the preferred meeting place of politicians, best known for the historic meeting when the nonaligned nations movement was created by Tito, Nasser and Nehru. Long in preparation, our Conference had the bad luck that the Ministers of OPEC (Oil Producing and Exporting Countries) suddenly decided to hold one of their meetings right there, and precisely at the same time of the Conference. Not surprisingly we had to move out, on short notice. Our friends and business partners in Rovinj have given us another home, not exactly an easy decision in the overcrowded high season at the Yugoslav coast. The OPEC ministers obviously enjoyed being at Brioni, departed however without any agreements (as reported by

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the newsmedia). Our Conference, organised for a tiny fraction of the cost of the other (including financial losses due to our relocation, and never compensated) has produced this Volume, modest in number of pages, but containing a wealth of information. We just wonder whether this message would ever be understood by politicians. Probably not.

It remains to express our appreciation to the people in Rovinj and the staff of the Jadran Hotel Co. for excellent facilities and good services. We also appreciate the small, visible and less so, contributions in kind of many. They have been important in times and places, where a throughgoing telephone connection still belongs to a chance category.

The Conference over, it was back to the laboratories and studies and other meetings. New ideas are created, some of them will have its roots in the information obtained in Rovinj. These will be verified, argued, supported and disputed. Let us hope that next time around the tradition of excellence will be upheld and shared, as it was the case in all past events.

REFERENCES

1. B. Težak and V. Pravdić (Editors), *Solid/Liquid Interfaces, Proceedings of the International Summer School*, Dubrovnik-Cavtat, 1969., *Croatica Chemica Acta* **42** (1971) No. 2.
2. Committee to Survey Opportunities in the Chemical Sciences, George C. Pimentel (Chairman), *Opportunities in Chemistry*, National Academy of Sciences (USA), 1985.
3. For preceding publications of the Proceedings see:
III Conference, Rovinj 1972: B. Težak and V. Pravdić (Editors), *Chemistry at Interfaces, Croat. Chem. Acta* **45** (1973) No. 1.
IV Conference, Cavtat 1975: *Croat. Chem. Acta* **48** (1976) No. 4.
V Conference, Cavtat 1979: *Croat. Chem. Acta* **53** (1980) No. 2.
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