International Helgoland Symposium: Closing remarks

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Ladies and gentlemen,

A number of symposium participants have been discussing for some time about which representative of which country should have the honor to deliver the closing remarks and to thank Dr. Kinne and his collaborators. As you see, the country with the longest shoreline was chosen – Austria!

Dear Dr. Kinne, dear friends from Helgoland, Hamburg and List!

We have been welcomed and treated here cordially and warmly throughout this symposium. It is a pleasure for me to acknowledge this hospitality, as well as the excellent organization of the meeting.

You have chosen "Ecosystem research" as the general theme of this meeting – truly an important, up-to-date topic. My teacher, Ludvig von Bertalanffy, who laid the foundation of biosystem analysis in the late fourties, was ridiculed by many of his colleagues, and finally left his home country, Austria. However, today, a generation later, we find ourselves in a world in which ecosystems, even those in oceans and coastal waters, need critical attention, conservation and management, but we are not prepared. Ecosystem research should not have started a generation ago, it should have started five generations ago!

The human mind – marvellously able to reflect a world of facts, wonderfully adapted to analyse or to synthesize single chains of events – is obviously not sufficiently adjusted to comprehend complex systems. In contrast, nature has, apparently, always operated in terms of systems – sets of circuits, in which effects feedback to their own cause, where causality dominates hierarchies of biological complexity, and where interconnections occur in networks, not in chains, and always in terms of energy and information. Such correlations are very difficult to comprehend, but their rationalization is essential. It is essential because science depends on predictions and because our long-term survival depends on our ability to understand the dynamics of ecosystems.

As a young boy, I read Jules Verne's "Twenty Thousand Leagues under the Sea". His visions left long-lasting, deep impressions. I recall vividly the elaborate machinery of the Nautilus interior, and when I walked through the new Helgoland

708 R. Riedl

"Multipurpose Environmental System", it was as if a childhood dream had come true. I am sure that all symposium participants join me in wishing success those who designed and those who shall use this MES.

Thank you again, Dr. Kinne, for having invited us to come here. We are very grateful to you and to your associates who have helped to organize this symposium. You have made this symposium a rewarding experience. Thank you all, indeed!

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