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1. Future Methodology Based on Past Assumptions	1
JÓZSEF KINDLER AND ISTVÁN KISS	
<p>This is a revised version of one of the papers prepared as a background to the seminar itself. Kindler and Kiss are both practitioners and educators concerned with different systems-based methodologies. This chapter sets out the main issues which, in their experience, as well as in the literature, have caused controversy and which need resolution. They point out some of the hidden assumptions made in connection with Operational Research and Applied Systems Analysis (ORASA), which have limited its value and sometimes caused it to mislead. In doing this they draw extensively on the previous publications of those who attended the seminar.</p>	
2. Systems Approach and Systems Analysis	19
I. V. BLAUBERG, E. M. MIRSKY AND V. N. SADOVSKY	
<p>Blauberg, Mirsky and Sadovsky discuss a few philosophical problems of the systems-oriented methodologies. The authors are leading Soviet writers in the field of systems studies. They were the first who wrote on general systems theory in the Soviet Union and have endeavoured to describe its role in science – from the viewpoint of philosophers. In their earlier works, for instance in their book “Systems Theory – Philosophical and Methodological Problems” (available in English from Progress Publications, Moscow, 1977) they anticipated some of the problems of systems methodology discussed today. In this chapter they argue that the criticisms of the present day practice of systems analysis are no more than the second stage of the normal development process of a new methodology. In addition they discuss some theoretical and methodological foundations of systems research in general.</p>	
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HYLTON BOOTHROYD	
<p>Hylton Boothroyd’s contribution is in one sense a natural development of his book “Articulate Intervention” which describes in philosophical terms his experience in the very successful Operational Research Group of the British National Coal Board. It is a personal paper describing some of the experience that led to his present position, explaining in detail his concern with “language” and expanding on some of the key words he uses to describe the interactive process of creating change through analysis.</p>	

- 4. Rethinking a Systems Approach** 43
- PETER CHECKLAND
- Peter Checkland's contribution is both a critique of systems thinking in the past 35 years and a statement of his own, distinctive, Soft Systems methodology which has subsequently been described more fully in his book "Systems Thinking: Systems Practice". His is the most formal description of a "systems approach" included in this volume.
- 5. Thought and Wisdom** 67
- C. WEST CHURCHMAN
- C. West Churchman emphasizes some of the moral and ethical dilemmas which face the systems analyst. Churchman is the "grand old philosopher" of systems thinking, and his books "The Systems Approach", "The Design of Enquiring Systems" and "The Systems Approach and its Enemies" remain classics of the Western literature in this field. We do well to listen to his awkward questions.
- 6. Policy Analysis for Advising Rulers** 79
- YEHEZKEL DROR
- Yehezkel Dror discusses policy analysis for Rulers, defined as "heads of government . . . including collegial bodies of Rulers". In this sense, all countries—large and small, of all political persuasion—have rulers. The question Dror deals with is what, if anything, the policy analyst can do to improve the decisions they may make, and what necessary, or desirable, conditions exist for the policy advice to be acceptable.
- 7. Change in the Paradigms of Systems Analysis** 125
- DR JANOS FARKAS
- Farkas's paper was one of the two formal presentations prepared especially for the seminar and was circulated in advance of the meeting. After the seminar he rewrote his paper which now reflects that discussion. Farkas, who is a philosopher turned science sociologist, argues for a deeper and more substantial consideration of the human and social aspects of the complex problems investigated by systems analysis. In doing so he calls for a "change in the paradigm of the systems analysis".
- 8. Current Methodological Problems of Systems Analysis and Its Application** 135
- O. I. LARICHEV
- Oleg Larichev writes about current methodological problems of systems analysis. He is both a practitioner and also a theoretician in the field of decision analysis (his recent book, in Russian, is "Science and Art of Decision Making"), and explains that the main symptom of the crisis in systems analysis is mistrust. For the better understanding of the state-of-the-art he examines the history of ORASA, and suggests three major directions of improvement for the methods of systems and decision analysis. He emphasises the importance of subjective judgement and suggests that this is the most valuable aspect introduced by systems analysis compared with operations research.

9. The Craft of Applied Systems Analysis	143
GIANDOMENICO MAJONE	
<p>Nino Majone works part of the time at IIASA, assisting with the development of the Handbook of Systems Analysis, and his chapter on “The Craft of Applied Systems Analysis” first appeared as an IIASA working paper. Majone uses the word “craft” to describe that mixture of “science” and “art” essential for a successful practitioner. This analysis of what is involved in the craft, and how we should judge quality, is central to the general theme of the book.</p>	
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GERARD DE ZEEUW	
<p>Gerard de Zeeuw discusses the second order, meta-level problems of systems analysis. In particular he emphasizes the need to make more effective use of experience, as retained in the minds of all the actors involved. At the same time it is always necessary to appreciate that any approach, however good, also has its dangers.</p>	
13. Rethinking the Process of Systems Analysis and Operational Research: From practice to precept – and back again	205
ROLFE TOMLINSON	
<p>In the final chapter Rolfe Tomlinson brings together the main conclusions of the seminar and discusses their implications. He emphasizes that in one sense the discussions have produced nothing that is new to successful practitioners of the subject. What is new is the development of a theory – a philosophy or a methodology – which accords with good practice and can therefore reasonably be used as a basis for further development of the subject. The main body of the chapter explores in turn the consequences that acceptance of this theory would have for practitioners, clients, teachers and researchers.</p>	