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The State of the Art in Global Modeling

Bruckmann, G.

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June 1980**



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THE STATE OF THE ART
IN GLOBAL MODELING

Gerhart Bruckmann, ed.

June 1980
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Papers presented at the 6th IIASA
Global Modeling Conference
17-20 October 1978

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FOREWORD

Ever since its foundation, IIASA has assumed a monitoring role in the field of Global Modeling. Whenever a major model reached a state of completion, a IIASA conference was convened in which this model was presented and discussed by a (rapidly emerging) "Global Modeling Community" of scholars actively or passively working on global models or problems of global modeling.

The 6th IIASA Global Modeling Conference, held at IIASA 17-20 October 1978, was different in scope insofar as it was mainly devoted to an assessment of the state-of-the-art. The first (major) part of the conference was organized around seven major topics (rather than models); all contributions and papers pertaining to this first part have been incorporated into a book, probably to appear under the title "Groping in the Dark".

The second part of the Conference was, as usually, devoted to a presentation and discussion of ongoing modeling work. It is the papers belonging to this second part which should have been assembled in a separate volume. It deserves to be emphasized that these papers should not merely be considered an appendix to "Groping in the Dark"; from what was said above, it should be clear that the second part of the Conference was sufficiently independent from the first part to warrant a publication per se. As the 7th IIASA Global Modeling Conference was devoted to a special problem (environmental aspects in global models) and the 8th Conference will again be devoted to a special problem (international economic modeling), these papers represent a rather comprehensive overview of all major methodological and practical work recently done in global modeling or, in other words, the latest somewhat complete assembly of reports on global modeling work available for some time to come.

Unfortunately, for technical reasons it has been impossible to publish these papers - covering some 800 pages - in traditional form. IIASA must limit itself to making all papers not published elsewhere available to an interested scientific community in the form of microfiche.

This Collaborative Paper, therefore, gives only a list of these papers, plus background information about the Conference. Microfiche copies of the individual papers are available on request from the IIASA Publications Department, A-2361 Laxenburg, Austria, Attn: Robert McInnes.

List of Papers

Contributed to the 6th IIASA Global
Modeling Conference, 17-20 October 1978

A) Overviews

Cole S., Global Models: An Evaluation of Their Relevance to
Policy. 1)

Ward, M.D., and H. Guetzkow, Towards Integrated Global Models:
From Economic Engineering to Social Science Modeling.2)

Albizuri, G.A., What Future (if any) May Global Modelling Have?

Slessor, M., How Many Questions Should a Global Model Answer?

Lapin, N.I., Social Indicators in Global Development Models

Federwisch, J., Purposes and Goals of Global Modeling, an User
Point of View

B) Methodological Papers

Roberts, P.C., Learning Processes in Global Models

Bossel, H., and K.F. Müller-Reissmann, Nonnumerical Simulation
of Cognitive Processes of Human Behavior

Millendorfer, H., Framework of Understanding Societal Mechanisms

Medow, P.I., Simulating Evolutionary Shifts in the International
System of Division of Labour: Experiments in Ecologically
Embedded Programme Planning

Toinet, J.-M., Grey Energy, the Generation of Consumption in an
Input-Output Approach

Tikhomirov, V., Modeling of Multistate Dynamic Systems: New
Approach and Application for Study of the World Structure

Bánkővi, G., J. Veliczky, and M. Ziermann, Dynamic Factor Models

Kulikowski, R., Modeling of Regional Utilities and Access to
Consumption and Services

Gvishiani, J.M., Theoretical Problems of Global Modelling

1) Published in the Journal of Interdisciplinary Models and
Simulation, 1979, Vol. 2, No. 2

2) Published in the Journal of Policy Modeling, 1979, Vol. I,
No. 3

C) Description or Critique of Particular Models

Gupta, S., and R. Padula, A Global Model for Interregional, Intertemporal Analysis of Trade, Capital Flows and Development (A World Bank Project)

Kaya, Y., and A. Onishi, Development of FUGI-ESCAP Model

Kile, F., and A. Rabehl, Perspectives of the World: Generative Notions for a Flexible, Integrated World Model

Robinson, J., The Global 2000 Study

Onishi, A., Technical Details of Global Macro-Economic Model

Cole, S., and G. Chichilnisky, Technology, Domestic Distribution and North-South Relations

Saavedra-Rivano, N., A Critical Analysis of the Mesarovic-Pestel World Model

Bauerschmidt, R., P. Möller, and W. Oest, The ISP Model System for the Federal Republic of Germany - Structure and Results

Medow, P.I., The 1978 International Symposium on the Simulation of Ecological Systems (Telavi, USSR)

Riethmüller, C., DYNAMITE - A Dynamic Model of the Development of Berlin (West) Supported by an Experimental Dialogue System

Nagar, A.L., Forecasts on Certain Economic Aggregates of the Indian Economy

Scolnik, H.D., A Critical Review of Some Global Models

Bus, J., H. Tiemersma, T. Timman, W. Wils and A. de Zeeuw, MOIRA: A Modular Set-Up

Moiseev, N.N., Studying the Dynamics of the Noosphere

APPENDIX 1: AGENDA

Tuesday, 17 October 1978

09:30-09:45	Welcome	R.E. Levien
09:45-10.00	Introduction to the Conference	G. Bruckmann
10:00-13:00	Topic 1: Purposes and Goals of Global Modeling	D.H. Meadows *
14:00-16:00	Topic 2: Methodological Problems	S. Cole, * P.C. Roberts *

Wednesday, 18 October

09:00-10:30	Topic 3: Policy Variables and Factors in Global Models	M.A. Keyzer *
11:00-12:30	Topic 4: Structural Aspects	O. Rademaker *, B. Moore , * M.A. Keyzer * H. Linnemann ,
14:30-16:00	Topic 5: Testing a Global Model	S.A. Bremer *
16:30-18:00	Topic 6: Internal Organization of Global Modeling Work	J.M. Richardson *

Thursday, 19 October

09:00-10.30	Topic 7: Relations between Modeler and User	B.G. Hickman *, J. Robinson ,
11:00-12:30	General Evaluation	G. Bruckmann
14:30-18:00	Presentation and Discussion of New Models	

Friday, 20 October

09:00-12:30	Presentation and Discussion of New Models
14:30-18:00	(continued)

* Introductory Statements

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