International Federation For Systems Research

NEWSLETTER

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EDITORIAL

Two years may count but little in publishing life. Nonetheless, it is surprising just how much, that is worthy of record, occurs within a single scientific speciality in even so short a time, judging by what did find its way into the pages of the IFSR Newsletter. So it seems that — inter alia — the voice of cybernetics is getting strength and that the trend for systems scientists to press more and more strongly in directions holding out promise of practical applications being found for their word in human concerns, is growing; examples: SWIIS, Supplemental Ways for Improving International Stability, and/or the Evolutionary Vision of a Better Life for all, discussed in this issue.

Thanks are due to the enthusiastic help we continue to receive from the staff of Koralpendruck, in the speedy production of this paper and the editor's local (honorary) mainstay, Frau Imma Bodirsky.

IFAC SYMPOSIUM REVIEWS TECHNOLOGY TRANSFER TO DEVELOPING COUNTRIES

Vienna, Austria, March 21—23, 1983

At the proposal of IFAC, members from developing countries and the Austrian National Member Organization of IFAC, ÖPWZ (Austrian Center for Productivity and Efficiency), invited experts from both the developing and developed countries to contribute to a symposium their experience in the transfer of appropriate technology. The symposium was intended to draw conclusions from the presentation and assessment of case studies — both good and bad examples — of transfer of new technology.

In solving the problem how best to assist economic progress in developing countries, "technology transfer" has not proved the panacea it was thought to be. The preface to the preprinted proceedings of this symposium points to "implantation of such a foreign body" as the principal cause of "defensive mechanisms, distortions and counterintuitive effects in the social, economic and cultural organism of technology importing countries". It goes on, suggesting systems analysis as a suitable tool for coming to grips with this issue, stressing that "it is of minor importance whether one arrives at certain insights by mathematical model building or by reasoning".

The worldwide reach of IFAC as an international organization is made evident by the wide spread of countries represented by the authors of the 30 or so papers contributed, i.e. Austria, Brazil, CSSR, Egypt, FRG, GDR, Hungary, India, Iraq, Israel, Italy, Japan, Mexico, Morocco, China, Sweden, Switzerland, UK, USA, Yugoslavia. About 300 participants were at this three-day event from, in addition to the list of countries above, Finland, Kenia, The Netherlands and Saudi Arabia.

Dr. Ing. Otmar Ladanyi, ASCS

"SYSTEMS RESEARCH"

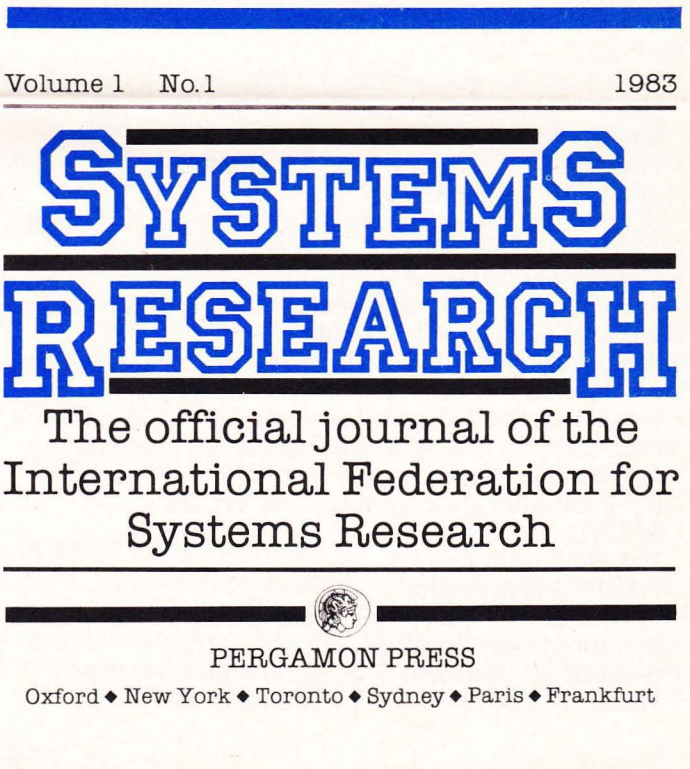
The IFSR Journal has Large Referee Panel

Preparations for the publication of "Systems Research", the new Journal of IFSR, are moving ahead and a reduced facsimile of the cover is at the foot of this note.

Prof. Dr. J. N. Warfield, the editor-in-chief, has had remarkable success in setting up his specialist panel of referees. More than 230 eminent scholars in the field accepted his invitation to provide their services. This means that for every type of contribution, the editor will have specialist referees to call upon, so that every author can be sure his paper will be dealt with by someone thoroughly familiar with the latest developments and trends of the specific aspects of a particular paper.

This facility will also go a fair way towards realizing the overall editorial objective of making "Systems Research" the best of its kind in the field which, in return, will reflect credit on the authors whose works appear in "Systems Research".

Authors who would like to see their contributions considered for the first few issues should send them now to:
Prof. Dr. J. N. Warfield
Editor-in-Chief „Systems Research", Center for Interactive Management, Thornton Hall, University of Virginia, Charlottesville, VA 22901, USA



Dr. Hertha Firnberg, Austrian Federal Minister for Science and Research retires.

Frau Dr. Hertha Firnberg retired earlier this year from her position which she held since the Ministry of Science and Research was created in 1971. Her influence and activities have been manifold, pioneering and of lasting value; such as the new university regulations which gave this institution a more democrative structure than it had had hitherto. She took a leading part bringing to fruition proposals to establish IFSR in Austria with government support and has since shown her interest in the development and activities of IFSR.

We wish Dr. Hertha Firnberg a long and happy active retirement. We shall always gratefully remember her helping hand.

6th INTERNATIONAL CONGRESS OF CYBERNETICS AND SYSTEMS

of the World Organization of General Systems and Cybernetics
PARIS
September 10—14, 1984
Organized by the Collège de Systémique de l'AFCET

Invitation of papers
Two copies (500—1000 words).
Deadline for abstracts: October 15, 1983
Deadline for final papers: March 15, 1984

Aims of the Congress
This meeting is a follow-on to the earlier events organized in London, Oxford, Bucarest, Amsterdam, Mexico, and will present contemporary aspects of Cybernetics and examine their various developments.

Proposed Topics
Methods
- Foundations, epistemology, analogy, modelisation, general methods of systems, history of cybernetics and system science ideas.
- Information, organization, morphogenesis, self-reference, autonomy.
- Dynamical systems, complex systems, fuzzy systems.

Domains
- Physico-chemical systems.
- Technical systems: automatics, simulations, robotics, artificial intelligence, learning.
- Biological systems: autogenesis, physiology, systemical therapy, neurocybernetics, ethology, ecology.
- Human and social systems: anthropology, economics, development, management, education, planification.

Applications to:
6th International Congress of the WOGSC
AFCET
156, Boulevard Pereire
F-75017 Paris, France
Languages: French — English, simultaneous translation for plenary sessions.
Secretariat: Elisabeth Fayola, Catherine Frachon
Tel.: (1) 766 24 19 — Telex: Eurtel 290 163

SGSR Doubled Membership

We cull the following information from the "Introduction" by Prof. Bela H. Banathy (Vice-President/Managing Director of SGSR) from the latest issue of the "General System's Bulletin".

SGSR initiated three years ago an "Institutional Renewal Program" aimed to: (1) continue to develop its institutional potential and viability; (2) to enhance its work in systems research and application; and (3) to increase its capability to serve its members, the scientific community, and the larger society. Seven task forces were established and carried out the work. These tastk forces developed their specific programs and reported their findings in several issues of the bulletin in the course af the last two years.

A 1982 draft was revised and finally adopted by the Board. The main features of the by-laws include a larger Board of Governors and the establishment of: (a) standing committees (in seven task force areas), (b) the SGSR Council, and (c) a set of special interest groups.

As part of the institutional renewal program, the membership was more than doubled in the last three years and several local and national chapters were created. SGSR's last annual program also reflected the institutional growth as over 300 participants from twenty-two countries who met to exchange views on a full range of methods, characteristic to contemporary systems inquiry.

The program growth and continuing institutional development has been the result of many SGSR members to make the Society a success in the service of the scientific community and society in general.

Bela H. Banathy adds: "This introduction is my last contribution as editor of the bulletin, and as Managing Director, as I pass on these responsibilities into the most capable hands of my long-term associate and friend, Len Troncale. I was much inspired by his "Platform" statement (published in the Fall 1982 Bulletin), and I will assist him to attain the goals he set for himself and the Society. Following the May 1983 meeting, I will take up the task of serving as your President-Elect. So you will hear more from me soon, and I hope to see many of you at the Detroit meeting."

CYBERNETICS ACADEMY ODOBLEJA

An informative twelve-page "Newsletter No. 1" publicizes the formation of this new association. Rooted in Lugoj (Romania) and registered under Swiss Law, its western activities are focused on the Milano Secretariat (Via Larga 11, I-20122 Milano, Italy).

Founded by the Dragan Foundation, the Academy is dedicated to the memory and work carried out by Stefan Odobleja, a physician who appears to have spent most of his life time in Lugoj. By 1937 he had developed cybernetic principles, published mainly in Romania, but now they are also available under the title **General Cybernetics** (Nagard Publishing Co., Milano, 1981). How the Academy sees the overall cybernetic development is shown by a complex diagram acknowledging Wiener, Ross Ashby, Ducrocq, Postelnicu and Odobleja.

The main objective of the Academy, which resulted from a meeting held at Lugoj in honour of this scientist, is stated to be "the progress of cybernetics and its better knowledge all over the world". Officers and Council members are located not only in Romania, but also in Italy, Switzerland, The Netherlands, Greece, Israel, Iraq, Germany.

ASCS RESEARCH

The ASCS (Austrian Society for Cybernetic Studies) held its last business meeting of the academic year on June 20, 1983.

Prof. Trappl, President ASCS, reported on the "Colloquia on Cybernetics" held in the Society's seminar rooms during the last three months and also on an new addition to the Research Report Series, published by the Society.

"Wissensrepräsentation — Die Darstellung vom Wissen im Computer" by Alfred Kobsa is now available and the author's own translation, entitled "Knowledge Representation — Survey of its Mechanisms, Sketch of its Semantics", will be published in "Cybernetics and Systems" in the near future.

Research Projects

"Software-Innovation in Medicine with Special Emphasis on Artificial Intelligence Methods".

The report (and it is a substantial report) has been passed on to the Federal Ministry of Science and Research. A shortened version will be prepared for publication in the Society's Research Report Series.

"Computer-Diagnosis" (Computer-aided Diagnosis and Therapy in General Practice). The report and the accounts have been passed on to the sponsors. Continuation of the project is anticipated. A modified version of the report is soon to be published in the Society's Research Reports Series.

"Datenbankkonzept für Mikrocomputer" (Data Bank Concept for Microcomputers). This project has been approved and will be carried out in close cooperation with the Federal Ministry of Science and Research.

„Ärztebestandsprognose" (Prognosis of future number of physicians in Austria). Work has started on this project. It is in the hand of Dipl.-Ing. Johannes Retti of the Department of Medical Cybernetics of the University of Vienna.

"Social and Economic Impacts of AI". A joint enterprise between ASCS and IIASA. A Task Force Meeting has taken place in Laxenburg, Austria, August 15—17, 1983.

The IFSR Newsletter Issue 7 will include

- Reports on the SGSR Annual Meeting 1983 in Detroit,
- A Task Force Meeting on Artificial Intelligence and its future role, arranged jointly by the ASCS and IIASA, with the support of the Austrian Federal Ministry for Science and Research, in Laxenburg (Austria), during August 1983,
- The SWIIS Conference in September 1983,
- Reserarch Reports and as many other features as space will permit.

Systeemgroep Nederland (NS)

We are both pleased and impressed to receive a 30-page attractive and handy booklet "Inventory of Systems Research in the Netherlands", edited again by Prof. de Zouwen who over the years has built up an index of Dutch systems scientists, including their names and research interests, by what he called the "snowball" system. When he approached those scientists he knew he also asked them to let him know about others. This is the third such list that has come our way. The list having grown from (if we remember correctly) an initial number of 38 to the present total of well over a 100 names ordered alphabetically.

Surely Prof. de Zouwen is to be congratulated on his effort well worth copying elsewhere until IFSR can publish a world-wide register.

Board changes at NS

A meeting last autumn elected Prof. de Zeeuw President, and Dr. Uyttenhove Secretary (address: Technische Hogeschool Eindhoven, Afdeling BDK-OK, Postbus 513, 5600 MB Eindhoven, The Netherlands) Prof. de Zeeuw and Dr. Broekstra remain SN representatives to the IFSR Board with Dr. Uyttenhove as alternate.

Interrelations Between Major World Problems and Systems Science

We have received outline particulars of the two volumes (edited by George Erik Lasker) subtitled "The Ecology of Human Knowledge and Global Problems in Systems Perspective" and "Advances in Holistic Problem Solving and Human Actions Systems Research".

We hope to comment in our next issue on the contents of these two volumes which represent the "Proceedings" of thew AGSR Meeting 1983. They are published by INTERSYSTEMS PUBLICATIONS, P.O. Box 624, Seaside, CA 93955, USA.

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The Fuschl Symposium on Global Learning 1982

- essential financial support has been proposed to several sources for the development and expansion of the program.

A CLOSING THOUGHT

You may ask — as we have asked ourselves — what can a small group like ours do? We do not have — and never will have — the illusion of "grandeur." We know very well that our voice is a small voice, but it will be persistent and spoken in many languages as the years go by. We are *guided by an evolutionary vision of the global unity of mankind and the full development of human potential everywhere* and we dedicate ourselves to work on the agenda we developed in the course of our meeting. We are inspired by a shared dream for a better world for all.

When our children and grandchildren ask us — as they do —, "What kind of a world shall we inherit from you?", at least we can tell them that we will do everything within our power to leave them a more livable and peaceful world with more humanness and love in it, and more opportunities for the realization of their potential and for the enrichment of their inner quality of life.

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* For example, the topic of the 1983 annual meeting of the Society for General Systems Research is *International Conference on World Problems and Systems Learning.*

** *The Institute already developed its own research and development agenda in line with the Fuschl agenda; it assists schools in developing international/global education programs and is involved in publishing a compendium on Education in Systems Thinking.*

AN EVOLUTIONARY VISION OF A BETTER FUTURE FOR ALL

(Part 2)

A Summary Report by Bela H. Banathy, Global Learning Symposium — Fuschl (Austria) 1982

THE FIRST FUSCHL SYMPOSIUM

In April 1982 a group of systems scholars gathered in a small hotel in an idyllic setting on the shores of the Fuschl Lake, near Salzburg, Austria. They came from three continents, representing nine countries and ten cultures, and they are leaders of systems science professional societies whose memberships stretch around the globe.

I. Purpose

The group spent four days discussing the potential contribution that the systems movement may make in order to:

- develop and bring into focus a systemic view of global issues, and
- promote education in systems thinking as a way to enhance the capturing of global perspectives and attaining global awareness and consciousness by all.

The group mapped out a preliminary agenda for an action plan that will guide the research and program agendas of the various systems science groups and societies, and the systems science community in general.

At the end of the meeting a commitment was made by all participants to continue to devote themselves, for the next five years, to the twofold purpose described above, to continue to have annual meetings and to keep on working on individual and group agendas year round.

II. A Plan For Action

In the course of the symposium, participants — working in two intensive groups — developed eighty items representing contributions that systems science may make to address global issue and to develop and promote systems-thinking-based education for global awareness.

A synthesis of the eighty items led to the formation of an agenda for the future which is presented below in two parts: preamble and agenda.

Preamble

The agenda below addressed the task of education for global awareness and fostering of a systemic approach to the solution of global problems, whereby:

- individuals and institutions are encouraged to recognize their inescapable involvements in, and responsibilities for global concerns; world problems and their histories are mapped and their effects reviewed;
- systemic views of global issues are created; and
- flexible and self-regulation strategies for improving human conditions are developed and implemented.

Agenda for Research, Development, and Interaction

- **AWARENESS.** To encourage individuals to deepen their understanding of global problems and their potential contributions to solutions of such problems.
- **RESPONSIBILITY.** To make clear the ethical responsibilities and professional obligations of systems scientists to promote awareness of and search for solutions to global problems.
- **COOPERATION.** To develop a climate of cooperation in which links can grow between individuals, professional societies, institutions, cultures and nations for the dissemination of information on global problem situations and options for addressing those situations.
- **CREATIVE LEARNING.** To examine the role of formal and non-formal educational systems in building new arrangements for learning systems thinking in the context of global issues.
- **FRAMES OF REASONING.** To further develop systems perspectives, frames of reasoning and improved methods for the characterization of the dynamics of global problems.
- **CONSTRAINED SOLUTIONS.** To identify specific strategies that widen perspectives, generate shared understanding, and promote feasible solutions to global problems respecting cultural differences, human potential and freedom, man's symbiosis with nature and enhancing the quality of life for all.
- **DECISION MAKING.** To encourage decision-makers to recognize the complexity and self-regulating properties of real-world systems, so that solutions to global problems can be implemented at a local level without inducing uncontrolled instabilities and side effects.
- **SOCIAL-ACTION.** To encourage informed and enlightened social-action in addressing global problems at all levels.

III. Implementation

We intend to implement the purpose and the agend described above as follows:

- *to focus our own work* — be it research, development, teaching or technical assistance — on addressing global concerns and commit ourselves toward the improvement of the human condition everywhere and the enrichment of quality of life for all;
- *to influence and encourage* our colleagues in the systems science community, particularly those we share work assignments with, to be guided by the same commitments;
- *to promote in the systems science societies*, institutions, and groups* the consideration and adoption of the agenda described above and the development of programs of research and agendas for conferences that address global issues as a system of interdependent issues;
- *to assist and advise in the development and implementation of systems-thinking-based education* at all levels of education as an essential part of education in global awareness.
- *to encourage transnational cooperation and coordination among systems science societies* that addres global issues and concepts by bringing into their deliberations a systemic orientation, and the organizing perspectives of systems philosophy, theory, methodologoy.
- *to establish arrangements for the coordination, continuing planning, organization,* and support of a five-year program.

Since the syposium, the following has been accomplished:

- the coordinating center of the program has been established at the International Institute for Systems Studies and Systems Education at the Far West Laboratory in San Francisco, California**.
- several chapters of the symposium proceedings have developed and were circulated among members of the group.
- a "mini-conference" was scheduled in London, September 1982, for the final editing of the proceedings and the planning for the next event in Detroit, May 1983, in conjunction with the annual meeting of the Society for General Systems Research.
- plans are now in formulation for the next full-gauged symposium scheduled for September 1983.

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SWIIS SUPPLEMENTAL WAYS FOR IMPROVING INTERNATIONAL STABILITY

The particulars for this report are based on publicity distributed by SWIIS. (Editor IFSR Newsletter.)

SWIIS FOUNDATION, INC.

S.F.I. is a non-profit educational and research organization. It was established to facilitate the receipt of funds for the purpose of providing support for various SWIIS activities.

SWIIS was founded mainly by people concerned with the design, manufacture, test, service, and maintenance of military equipment and systems who were at the same time convinced that significant long-term improvements in national security are possible through non-military methods.
SWIIS seeks the help of all like-minded people.

SWIIS Acitivities compries at present.
SWIIS Consortium of People from Universities and Institutes participating in an information exchange network for ways of improving international stability (Carnegie-Mellon University, Case Western Reserve University, Massachusetts Institute of Technology, State University of New York at Stony Brook, The City University, London, University of Pennsylvania, University of Southern California, and University of Virginia).

IFAC SWIIS Working Group
of 30 people from 15 countries interested in developing an improved understanding of systems techniques suitable for SWIIS.

IEEE Committee on International Stability
of the Systems Man and Cybernetics Society.

1983 IFAC SWIIS Workshop
September 13—15, Laxenburg, Austria
This event is cosponsored by IFSR (see IFSR Newsletter Summer 82). The Chairman of this workshop is Prof. Harold Chestnut (USA), the Vice-Chairmen are Peter Kopacek (Austria) and Adrzej Wierzbicki (IIASA).
This workshop divides into 6 groups:

Opening Session
Chairman: C. S. Holling

Session 1
Cultural, Political, Educational, Behavioral and Legal Aspects of International Stability
Chairman: P. Kopacek
Vice-Chairman: R. Genser

Session 2
Techno-Economic Conditions for International Stability
Chairman: H. H. Akashi
Vice-Chairman: S. Bremer

Session 3
System Analytical Approaches to International Stability I
Chairman: H. Chestnut
Vice-Chairman: J. Janssen

Session 4
System Analytical Approaches to International Stability II
Chairman: H. P. Schwefel
Vice-Chairman: T. Sheridan

Session 5
Negotiation and Mediation in Conflict Resolution
Chairman: A. Wierzbicki
Vice-Chairman: G. Bruckmann

Session 6
Decision-Making Processes
Chairman: R. Trappl
Vice-Chairman: A. A. Voronov

The members of the International Program Committee belong to: Austria, Finland, France, Great Britain, Hungary, Italy, Japan, Mexico, The Netherlands, Poland, Sweden, Switzerland, USA and West Germany.

1984 IFAC-SWIIS Symposium at Budapest
in July on the occasion of the 9th IFAC Congress.
The 28 strong list of people serving on SWIIS Committees covers: Austria, Brazil, Finland, Hungary, Italy, Japan, The Netherlands, Poland, Switzerland, UK, USA, USSR and West Germany.

International Stability

For the purpose of SWIIS, stability is defined as the result of people and nations living within mutually agreed-upon borders. The nations involved also understand, respect, and observe mutually agreeable rules of conduct. Stability also implies that peaceful procedures exist for resolving disagreements between nations and that gradual changes in the status quo may be made over a period of time in a mutually acceptable fashion.

National Security and Stability

Traditionally, nations have sought to achieve security by possessing powerful defensive military forces designed to discourage potential aggressors. With the development and proliferation of nuclear weapons and missile delivery systems, the USA and the USSR have an immense overkill capability. Should any of these „defensive" nuclear weapons be used in a strategic military exchange, there is no adequate defense to prevent the deaths of millions of people, both civilian and military, in either of the nations involved or in uninvolved neighboring nations as well. In order to achieve stability, new methods and approaches to the subject of security are needed. SWIIS intends to provide a forum for their identification and development.

Opportunities for Peace

The present opportunities for stability are better than ever before. We have new tools, methods, and a vast accumulation of knowledge. With peace, our time and money could be better spent combatting other problems that threaten our existence.

PROBLEMS OF ACTORS AND ACTIONS

A Conference Report by Prof. G. de Zeeuw

Systeemgroep Nederland organizes — in addition to regular summer schools, seminars and other events — a Research Conference in alternate years. Themes for this conference are selected and developed in all their aspects (see IFSR Newsletter Autumn 1982) by the organizer Prof. Gerard de Zeeuw, who below reviews and examines the key issues of the theme of the 1983 meeting.

As the third of a biennial series of meetings, the conference on Problems of Actors and Actions took place in Amsterdam. Previous meetings dealt with Problems of Context (1979), and Problems of Levels and Boundaries (1981). The meetings are sponsored by the Systeemgroep Nederland (Dutch Systemgroup), and the University of Amsterdam. The present meeting was organized by Gerard de Zeeuw and Annetta Pedretti.

Some people enjoy returning, and so become good friends. This time there were also quite a few new faces. About 60 people participated from some 9 countries. As usual many possibilities were offered and enjoyed for discussion and interaction, one of them the by now famous conference dinner. A new feature for interaction was introduced by Annetta Pedretti. Paricipants could write letters to each other, which were made into a conference book — available on the last day of the meeting. Quite a bit of effort went into this activity, but it was greatly appreciated.

There seem to be at present two major types of metaphor, on the basis of which scientific inquiry can be ordered fruitfully (and which of course also may be ordering more mundane processes). The one is the well-known optical metaphor, leading to the quest for theories, in relation to observations; to insight into the processes of nature, as seen by man; to observer-unbiased statements about events in the world — all as best as possible. The other is the (equally well-known) actor metaphor leading to the quest for plans, designs, supports, stimulating stories — in relation to the constraints of empirical reality; to justified action, reordering the interactive process of nature and man, as created by man; to explicitly actor-addressed statements on what to do, in cooperation with other actors — again all as best as possible.

The two types of inquiry, stemming from these two metaphors, are not mutually exclusive. They can be combined, or alternated, or used to study one another. One may wish for example, in terms of the latter, to observe as a researcher the actions of a group of actors, to represent in theoretical form the inner structure of the processes of interaction, etc. Here one uses the optical type of inquiry to find out about actors. Or conversely, one may try to make explicit (as a researcher) what one should see in terms of some activity of (other) actors — so as eventually some actors, when addressed, may improve their version of that activity by better local observation. In this case, following the actor type of inquiry, a researcher may concentrate on the observation process of some actors. Thus one may have four combinations, derived from the two metaphors. Again: this does not limit the possibilities for inquiry of both types, apart or combined.

In the meeting the various aspects of actors and actions were explored, both via the optical type of inquiry, and the actor type of inquiry. I just mention a few examples.

One may try to find improved supports for activities of actors like people or companies. One possibility is to increase interaction, so people's experience starts to be used more as resources (Mulej, Eckhart, Boyd). Another is to implement computer systems, to serve as quality amplificators of people's activities (Gergely, Futo) — especially of their collective problemsolving. Or to design such systems in a more general form (De Hoog, Vischer, Jones, Hough).

One may also explore the methodological implications of the actor type of inquiry: what if one mistakenly uses the procedures of the optical type, when those of the actor type are intended? How to recognize such mistakes, or use them to construct adequate procedu (De Zeeuw)? Or one may try to make such mistakes explicit in specific contexts, like economic systems (Guillet de Monthoux), in social helping (Polet), in intentional behavior (Ozinga), in bureaucratized inquiry (Van Geen), in psychotherapy (Soudijn), in planning (Van Lohuizen), in law (Decleris), in clinics (Van der Doef). A third series of questions stems from a comparison of optical and actor types of inquiry. What do actors see (Braten); what are the main concepts in both and how are these related (Pedretti), e.g. in language (Colombetti), or theoretically (Jung); how did they develop historically (Van Hoorn)? The above examples do not exhaust what was discussed, but may provide some idea of the complexity and variety of the contributions. There are indeed formidable problems with actors and actions — both conceptually, as well as in the flesh!

The discussions were very useful to have crystallize some of the main points of attention. Let me mention a few. Actions may deteriorate over time, and hence need supports — which again are actions. The quality of actions of some actors will also depend on the quality of other actors, not only on what they are doing themselves. Actions can produce complexity; inquiry need not only support reduction of complexity (Löfgren). Understanding of actions should not exclude the possibility of creating new actions. Positions as actors are not reducible to each other. To improve actions therefore, in research one will need the possibility of relating to many positions at the same time — at least those of the inside and the outside of every action.

Discussions such as proceeded in the conference seem helpful, at least to become more explicit about what can be done to attack our many pressing social problems — as indeed these seem to derive mainly from interactions between actors.

Gerard de Zeeuw

Note: Inquiries about proceedings should be addressed to Annetta Pedretti, Postbox 780, CH-8025, Zürich, Switzerland

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